

THE MACDONALD COLLEGE MAGAZINE.

"Mastery for Service."

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EDITORIAL.

**The
Agricultural
College and
Country Living**

Many people, particularly among those who live in cities, are taking a great interest in what is termed the back-to-the-land movement. Many are making the mistake of confusing this attempt at the re-organization of country life with the real awakening which has its origin, not in the office of the suburban real-estate agent, but in the minds of far-seeing men and women, who are familiar with conditions on the soil.

There are many ways of distinguishing between the country real-estate enthusiast and the real leaders in this movement. The one sees in the rural scene, herds of lowing kine, the fluttering butterfly, and fields of daisies and buttercups; the other, cows, codling-moths and weeds. The one tells of the virtues of pure air and plenty of freedom; the other, while being quite awake to these advantages, sees the need for better schools, better roads and better houses.

The most effective leaders in this genuine awakening are country-bred men and women,—just as the most successful missionaries for scientific agriculture are to be found in the ranks of the practical farmer and in the college graduate, with the practical experience in dealing with the problems the farmer has to face. To expect farmers, or their wives, to learn from the second-hand theories, and the results of experimental work, carried on under what are thought to be impossible conditions, is to expect too much of human nature. It is difficult enough at best to learn from the experience of others.

This is what gives promise to the widespread movement to make the country more livable. Its real roots are not in the enthusiasts of the seed catalogue type, but in men and women who already have their feet planted firmly on the soil. What colleges, like Macdonald, can bring to these leaders in the rural community is organization, instruction and inspiration. The importance of this function is being met by rapidly developing and efficient extension services.

* * *

Athletics.

The comparatively large influx of Freshmen this year has given an impetus to athletics. Macdonald has always acquitted herself creditably on the field and in the gymnasium, considering her numbers. As an evidence of this, we might cite the fact that she is usually ably represented on the University track team, while in the intercollegiate series she has maintained a good standing against heavy odds. Nor should we forget to mention that Macdonald girls hold the tennis trophy, gained in competition with the Royal Victoria College.

Prospects are bright this year for both basketball and baseball. An all-star series of baseball games served to develop some latent talent, and if the management can effect an entry into a city league a good team will represent Macdonald against Guelph, in February. In basketball some good material is to be found in the Freshmen class, and a good team will probably result. There are rumors that the rink is to be enlarged, which is, indeed, a much-needed improvement. No other branch is as popular with the majority of the students as skating, and with a large number of students the need of a larger rink will be greater.

* * *

Music at the College.

An appointment which has given general satisfaction among the students is that of a resident musical director. The need of such a teacher has been keenly felt in the past, and the College is all the more fortunate in being able to secure the services of Mr. Stanton, who is taking such a lively interest in musical affairs.

Formerly, it was with considerable difficulty that sufficient interest could be aroused among the students to keep alive an orchestra. Now, however, both an orchestra and a choral society have been organized under Mr. Stanton's direction, and we look forward to a winter term full of good things in the matter of music.

* * *

Alumni and the Magazine.

There must be something radically wrong when so few of our Alumni keep alive that interest in their Alma Mater that should manifest itself in the subscription lists of the College MAGAZINE. If it is the fault of the MAGAZINE, those in charge

ought to know it in order that all possible steps might be taken to correct the deficiency. The alumni of other colleges, at any rate, regard their college paper as being by far the best medium for the exchange of personal notes, and for keeping alive their love for their college. As the matter stands at present, the Macdonald College Magazine has not a quarter of the number of alumni subscribers that it should have.

The Alumni Association in the School of Agriculture has done good work in this direction, but as the great majority are from the other two schools, might it not be a good idea if some such organiza-

tion were constituted for the purpose of keeping alive in their graduates the loyalty which Macdonald and her organizations can so justly claim?

* * *

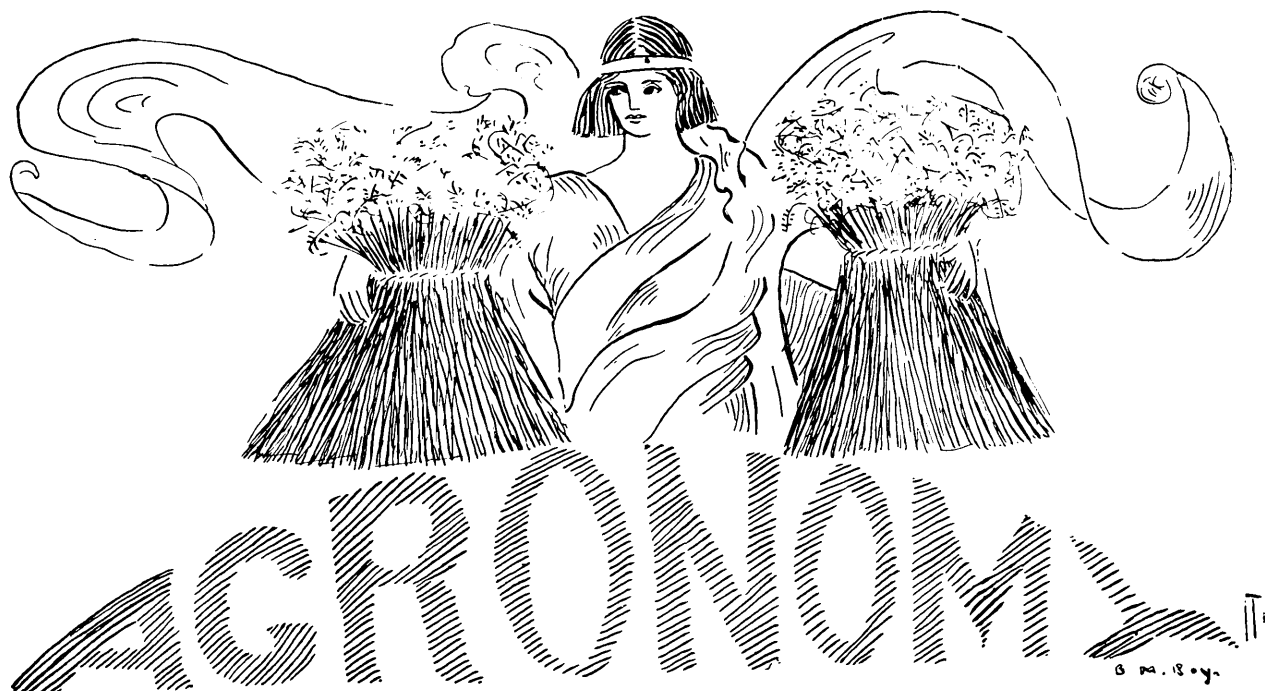
The members of the MAGAZINE board who, with the publication of this issue, retire, bespeaks the support of all for the incoming members. They wish to convey their hearty thanks to all who have in any way assisted them in the past year, and to express the hope that the new men may be able to profit by the failures of their predecessors, and further to wish them every success in their work.

* * *

Since going to press, the College has been closed owing to an outbreak of scarlet fever. Along with the rest, the MAGAZINE has experienced some difficulties as the result of this misfortune ; consequently, we would ask our readers forbearance in not having the issue in their hands before Christmas as is the usual custom.

* * *

The closing of the College occurred the day previous to the return of the Live Stock Judging Team from Chicago. A welcome had been planned for the men who had taken eighth place in very close competition. The MAGAZINE, on behalf of the students, tenders its congratulations to the men for the able manner in which they represented us and the institution at Chicago.



W. NEWTON, EDITOR.

Crop Rotation.

Why do Certain Crops Refuse to Grow in Successive Years, or even at Short Intervals on the same Ground?

By PAUL A. BOVING, B.A., B.S.A.



THE oldest and most primitive rotation, if indeed it might be called by this term, is that which was practised in the old village communities of Europe, where the same crop was grown in succession from one year to another. This system still prevails over large parts in the west of the United States, and of Canada, and it is also common on the "blacksoils" of Russia.

By and by, the land deteriorated, the yields lessened, the cultivated area was abandoned and was allowed to revert to weeds. New land was broken and was treated in the same way with exactly the same result. The acreage, however, became limited, and sooner or later it was found necessary again to bring the once depleted soil under cultivation. Thus the two year rotation and, later,

the three-field rotation, or, as the Germans call it, the "Dreifelderwirtschaft," evolved.

Whenever agriculture has advanced beyond primitive conditions, one finds farmers alternating different crops on different areas, in place of growing one single crop-species on the same land year after year. In modern agriculture, the principle of the four year rotation, or the Norfolk four-course shift, with its modifications, is largely adopted as well in Europe as on the American continent.

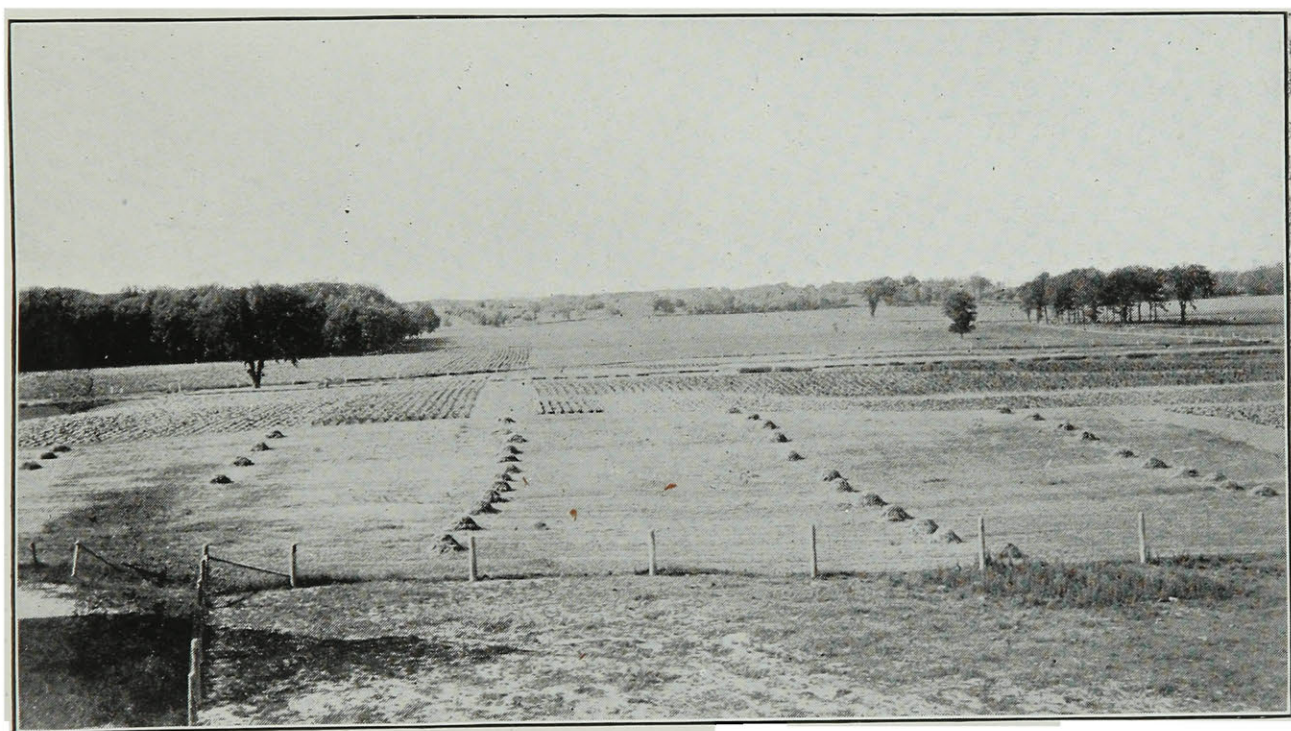
The reason generally assigned for the diminution of the crops was that the soil became "tired" or "sick" and needed a rest. In the course of time, it was understood that certain plants were more sensitive to repeated cropping than others. "Cloversickness" and "peasesickness" are terms which

have been quite common for years. I had not seen the word "flaxsickness" mentioned before coming to Canada, but it is a well-known fact that the flax is one of the most sensitive of our cultivated plants.

Potatoes, again, can be grown year after year, and places are known where the "potato patch" has been cropped a great number of years and still gives a yield, even if not a very remunerative one. I mention this especially, because an American authority on this subject,

"the crop more or less declined over the later compared with the earlier years." On well-manured land, however, the average yield for 26 consecutive years (1876-1901) varied from 8,700 lbs. to 9,600 lbs. per acre, and no statement is made by Hall, in the editions at my disposal, regarding future prospects for this crop on the same land.

On the eternal wheat plots on Broadbalk, at Rothamsted, fall wheat has been grown continuously for 70 years without inconvenience; barley has been



View over some of the Rotation and Fertilizer Plots, included in the Experiments of the Cereal Husbandry Department, Macdonald College.

in dealing with the well-known Rothamsted experiments in England, has erroneously stated that "potatoes grown on the same field for about fifteen years got the soil into such a condition of sickness or toxicosis, in which it would not grow potatoes at all." According to the interpretation of another American author, there was no falling off which could be attributed to the land being sick or diseased. Director A. D. Hall, in his book on the "Rothamsted Experiments," simply states that on all plots

grown for 61 years. Among the roots, the growing of swedes had to be discontinued after 15 years; mangels did not show any decrease after 25 years.

Legumes are very sensitive, as intimated above. Beans were a failure after five years, and the many unsuccessful experiments with red clover (they have been continued without intervals for 60 years) show conclusively that this plant has very little patience with itself. If other crops were grown

between, it was possible to repeat the culture of these sensitive plants.

At the Urbana experiment station, Illinois, corn has been grown every second year on two plots, alternating with bare fallow and oats. The corn yields better on the "oat plots" than on the "fallow plots." Many other examples could be quoted, but the above might be sufficient to show that the home of the plants, the soil, becomes insanitary in many cases when the same crop is grown continuously. The impossibility of growing certain crops and the difficulty of growing others in successive years, or at too close intervals, is probably to be traced to more causes than one.

How, then, explain these phenomena of tiredness or sickness?

Well, in many instances, the answer is comparatively easily found. Attacks by injurious insects and parasitical diseases is often a plausible explanation. Thus at Urbana. In other cases it is possible that the biological conditions of the soil have been changed; that the action of the bacteria has been influenced in an undesirable direction, and that this influence is eliminated only in the course of years or through the growing of intervening plants. The nutritive conditions of the soil might also be influenced even if this perhaps could not be proved by chemical reactions, and although full amounts of the extracted plant food were restored to the soil each year.

It is further possible that the roots of the plants throw off noxious substances which poison the soil or at least render it unfit for the same kind of plants, but not for others, and that this poison is again made innocuous, by degrees, through oxidation, or similar processes.

Still more theories could be and have been advanced. But suffice to say

that there is a wide field left for experimentally inclined men of every kind in connection with the proper rotation of crops. There is still good work to do in this regard for the chemists; the physicists and the bacteriologists will have innumerable questions to answer for many years to come. The physiologists, of course, are next to it, but somehow or other there does not seem to be any general inclination among them to work with ordinary cultivated plants, possibly because they do not consider field crops as constituting sufficiently scientific material.

However, many prominent men are at work studying from different points of view the factors involved in the great problem of rotation.

Russel and Hutchinson, among others, work at Rothamsted. They have come to the conclusion that there are amoebae in the soil which eat the useful bacteria. The neutralization of these amoebae, through partial sterilization, or by the aid of certain disinfectants, has already been recognized as of practical importance in horticulture. The French deal with the problem; the Austrians likewise (Kaserer, Vienna). Hiltner, in Munich, is one of the leaders. He works with disinfectants and other strong reagents, such as arsenic, and he seems to have disentangled the skein in parts.

The Americans are very diligent. Whitney, Schreiner, Shorey and others have studied the various classes of phenomena pertaining to soil fertility and rotation. They have made some very startling discoveries regarding the toxic substances given off by the plants, and many scientists to-day realize and acknowledge the importance of these discoveries. Their investigation is of immense interest, not least because they shake the basis of our hitherto adopted fertilizer practise and our conception of

plant physiology. They did, perhaps, exaggerate the new doctrine at first, like all real enthusiasts, but there is, undoubtedly, some and probably even a good deal of truth in their contentions.

It has been preached to us for a generation that the plants need lime, phosphoric acid and potash, besides some other substances, and that we must, sooner or later, supply the soil with one or more of the above-mentioned nutrients, in order to maintain its fertility. The Americans have shown that application of fertilizers, at least, in some cases, is of no use unless the specific toxic substance thrown off by preceding crops is removed or neutralized. And what is more: they contend that on a certain soil a certain plant will respond simultaneously to potash in the presence of one toxic substance, to phosphoric acid in the presence of another, and so on.

It is somewhat disquieting to look into the matter. To some of us such new doctrines appear just as shocking as did the modern bible criticism to the

previous generation. The plant is considerably more complicated than we used to imagine. It lives, it breathes, it feels and suffers, gets sick, poisoned and dies—like the rest of us.

“Are we not going to have any answer on the question under the heading?” No straight answer from me; at least, not to-day. What I intended to do at the outset more than anything else was to hint at the multitude of riddles in connection with this single question. You sometimes hear an inexperienced Freshman wonder if there will be something for him to do when he has finally graduated. Ah! my friends among freshmen and others, how little do we know about the machinery of the plant. And how much remains before we are able to comprehend God’s wonders. It behooves us well to be humbly searching and questioning not only, and naturally, while we are mere Freshmen, but also when we have reached the undisputed wisdom of Sophomores — and even considerably later.

Permanent Pastures.

By W. NEWTON, Agr. '14.



WITH far the greater number of farmers, permanent pastures will continue to be the main source of summer forage for some time.

In spite of this fact, the establishment and care of permanent pastures has received very little attention with the average farmer. For the most part, our pastures are allowed to look after themselves, when, by a little care, weeds may be kept out, and grasses and clovers maintained that would greatly increase their profitableness.

In establishing a permanent pasture, when one considers the number of years it remains down without being plowed, the importance of having the land free of weeds is very evident. The cleaning effect of a “hoed” crop is said to be mainly produced by tillage previous to planting, so how important is it in the case of permanent pastures where tillage, when once the land is sown, is practically nil for many years. Another important factor in the control of weeds is to have the seed-bed in such a condition that the grasses and clovers

obtain a strong and rapid foothold on the land, for weeds seem always too ready to occupy land unoccupied by a crop.

When preparing the land for the seed, deep plowing is always advisable, providing the nature of the soil brought up will allow the preparation of a suitable seed-bed at not too great a cost. The plowing should take place long enough before seeding to allow the soil to settle, otherwise the moisture will be partially cut off from below,

be given about the application of farm yard manure at this time, namely, the danger of sowing well-prepared soil with weed seeds contained in the manure. It is well, therefore, to take precautions to apply farm yard manures, either in a fermented state or to delay application until the stand is well established and can withstand the invasion of a few weed seeds.

As a result of over twenty years' work at Guelph, testing the various grasses and clovers, both singly and in



Dairy Heifers at Pasture on the Central Farm.

resulting in an insufficient supply of moisture around the young seedlings.

One must consider at this time the soil's fertility requirements. All pastures usually appreciate a dressing of lime, 40-50 bus. per acre. This will sweeten the soil, encouraging the growth of clovers and other valuable legumes. Farmyard manures can be placed ahead of the commercial fertilizers for pastures, due probably to their physical effects rather than their ability to supply the necessary plant-foods. A caution must

be given about the application of farm yard manure at this time, namely, the danger of sowing well-prepared soil with weed seeds contained in the manure. It is well, therefore, to take precautions to apply farm yard manures, either in a fermented state or to delay application until the stand is well established and can withstand the invasion of a few weed seeds.

As a result of over twenty years' work at Guelph, testing the various grasses and clovers, both singly and in

combination, the following varieties and amounts per acre have been suggested to be used under average conditions of soil, drainage and climate: orchard grass, 4 lbs.; tall oat, 3 lbs.; meadow foxtail, 2 lbs.; timothy, 2 lbs.; alfalfa, 5 lbs.; alsike clover, 2 lbs.; and white or Dutch clover, 2 lbs. Such a mixture will produce a good pasture, appetizing to the animals, abundant in growth and permanent in character.

Objections have been raised by many to alfalfa, and also to timothy as in-

gredients of a permanent pasture mixture. It was claimed that in both the characteristic high crowns unfitted them as pasture plants; that these crowns were injured both by tramping and being bitten off. These criticisms have been directed chiefly to Alfalfa. Recently, however, our attention has been called to new alfalfas, with this defect corrected; not only are the crowns lower but the vegetative buds that were destroyed by grazing are, on some of the new varieties, several inches below the surface of the soil. With the alfalfas, results have been obtained, but with the timothies the work has just begun. It is hoped that, in the near future, we will have commercial varieties of these alfalfas, also to have a timothy with a lower crown that would be more suitable for our permanent pasture mixture.

For average conditions, sowing in the spring with a nurse-crop, preferably barley, will give the best results. It must be remembered that the catch is of foremost importance. Therefore, if any signs of the nurse-crop interfering with the catch appear, it should be taken off immediately as hay. Too thick a mat in the fall to go down will sometimes result in smothering during the winter. To remedy this, clipping is much better than pasturing, unless the soil is lacking in firmness. It is well to remember at this time that the vigour of the root development is encouraged by the growth of top.

The question has been asked why pastures depreciate in producing powers. This may be due to many causes. Often it is because the pasturing stock are not

otherwise fed, resulting in a slow but sure depletion of the soil's fertility, for more is being taken off than is returned, in the form of droppings. One hears, too, of pastures becoming sod-bound. This condition is possible, though not probable, for what is usually looked upon as a sod-bound condition, is more often a cessation of growth through lack of fertility. Again, some plants, especially the clovers, are apt to be short lived. Also, toxic acids tend to accumulate. The addition of fertilizers, including lime, harrowing, and adding more seed, are the chief remedies. But perhaps the chief reason for depreciation is caused by lack of intelligence in grazing. There are three main rules to be observed in grazing pastures. First, stock should not be allowed on the pastures in spring until the grasses and clovers are well started. Second, grazing should not take place at any time when land is too wet. Lastly, too close grazing at any time should be avoided. One cannot study conditions in the pastures too closely; the causes of depreciation will soon be discovered, and the remedies will suggest themselves.

Although we have to admit that our climate is not quite so favorable for permanent pastures as that of parts of England and Scotland, still, land that is not required in the regular rotation of the farm can often be seeded to a permanent pasture mixture to advantage. The expense of labor involved in pastures is a comparatively small item, so, while the labor problem for the farm is still unsolved, we will do well to turn our attention to the establishment and maintenance of permanent pastures.

Agriculture is, of all industrial pursuits, the richest in facts and the poorest in their comprehension.—*Liebig*.



W. L. MACFARLANE, EDITOR.

Macdonald College Judging Team.

By A. A. MACMILLAN, B.S.A.



PROFESSOR Barton has again undertaken the work of training a judging team to compete at the international judging contest held at the International Livestock Exhibition in Chicago. The students began the early part of their work on the stock at the college, after which they made visits to the prominent breeders of the various breeds of live stock in the Province.

On Saturday, November 1st, the students, accompanied by Prof. Barton and Mr. Ness, visited the farm of Dr. McEachran, at Ormstown, where his splendid stud of Clydesdales and Shires afforded an excellent afternoon's work. Dr. McEachran has in his office a fine collection of pictures of modern Clydesdales and Shires, and the boys were able to compare by photo such noted sires as Prince of Wales, McGregor, Baron's Pride, Hiawatha and Baron of Buchlyvie. After being enlightened by a talk on breeding, pedigree and improvement, the boys proceeded

to the stables. His aged horse Seborne is in fine shape and appears to good advantage. Favorite Zone, a son of Baron of Buchlyvie, and a big strong three year old colt, Hercules, were good representatives of the breed, and impressed the students with Clydesdale type and character. A class of aged mares, including Lady Hugo, his great prize winning mare, May Blossom, and Countess of Afton were shown to good advantage. A class of three year old Shire fillies, as well as one of three year old Clydesdale fillies, and two classes of two year old Clydesdale fillies gave the boys a good test of their ability to judge the draught breeds. Dr. McEachran was very kind in allowing the students the privilege of getting such valuable training as they derived from a study of the excellent animals kept on Ormsby Grange Farm.

The following Saturday the young stock judges proceeded to the farm of Mr. J. E. Arnold of Grenville. Mr. Arnold was particularly strong on Percherons although he had several speci-

mens of the Clydesdale and Shire breeds. His aged Percheron stallion, winner at Sherkrooke, made an exceptionally good horse to impress the students with Percheron type and conformation. A class of three year olds, all keen competitors for first place, made a strong class. In the class of four two year olds there was one outstanding winner, a colt of good quality; exceptionally well put together and a good strong mover. A colt with hardly the smoothness or compactness of form but a good mover was placed second.

and Miss Arnold contributed to the success of our trip. It will have to be left to the reader's imagination what we did to the sumptuous supper that they prepared for us.

Mr. Macauley's farm was visited on the eleventh of November. The first class of Clydesdale horses brought out was the aged stallions. Lord Aberdeen by Baron Odea was placed first. He is a young horse in good condition with good feet and legs. Baron Odea and Lord Mac were not in as good condition as the younger horse and were



Third and Fourth Year Animal Husbandrymen at Grenville on a Judging Trip.

The other two were good colts with sufficient variation to make the class an interesting one to place and one from which much could be learned. Mr. Arnold's two year old colt was an easy winner in the next class. He is a colt that has done wonderfully well since he was imported. Mr. Arnold then brought out three Clyde stallions of exceptional merit and promise. The concluding class was one of four Percheron fillies and completed a very profitable day's work. Right here should be mentioned the part that Mrs.

placed below him. An excellent pair of fillies were next brought out, one being very typical with bone of excellent quality and good feet, the other being heavier but with less quality. Several hackney ponies, a few stylish high stepping mares and the aged hackney stallions were then shown. These animals gave the students a splendid example of the high stepping propensities of this breed.

The programme was now varied by the judging of sheep and Shorthorns. The afternoon of Nov. 14th was spent

at Mr. Parker's of Lennoxville, where several classes of Leicester sheep, one class of Shropshires and a class of Shorthorn heifers occupied the afternoon.

Perhaps no better compliment could be paid to the excellency of Mr. Parker's Leicester sheep than the reasons given by one of the boys on a class of aged ewes. The correct placing was 3, 2, 4, 1. "I place No. 3 first. She is more typical of the breed, excelling in conformation, breed characteristics and wool. She has a superior head, fuller in neck vein, with equally as strong a top, a longer and better carried out quarter than No. 2, with equally as good a leg of mutton, and decidedly superior in quality of wool.

No. 2 second because while having good constitution and being equally as strong a sheep as No. 3, yet she has not the breed type and her wool is inferior to No. 3, being not so dense and poorer in quality. No. 2, however, is placed over No. 4 because she is stronger throughout, with more constitution and carrying a stronger back.

No. 1 goes last. While she shows plenty of breed character with a fair fleece, yet she is out of condition, and a ewe that is past her best."

The other classes of Leicesters, together with one class of Shropshires and a class of Shorthorn heifers, made a full afternoon's work. Mr. Parker spared no effort to ake the afternoon pleasing as well as profitable.

The following day the boys took the morning train for Cookshire and had a splendid work out in Shorthorns at the farm of Mr. F. R. Cromwell, M.P. Mr. Cromwell's stock was in excellent shape. In the championship class of bulls his stock bull was an easy winner, showing plenty of breed character about the head, with depth and width of body, balance of form, and symmetry. He was perhaps a little overdone but had wonderful depth and wealth of fleshing. His aged cow winner at Sherbrooke easily led in the cow class, having wonderful scale and smoothness throughout. In young stock Mr. Cromwell is particularly strong, his calves showing so much smoothness, finish, and breed type that the students found them a particularly difficult class to judge. Mr. Cromwell's generosity knew no bounds, and in addition to providing dinner, the boys received one of the best treats of the season in a motor drive to Lennoxville arriving in time to catch the afternoon train back to Macdonald College.

Full many a gem of purest rays serene
 The dark unfathomed cave of ocean bear;
 Full many a flower is born to blush unseen,
 Or waste its sweetness on the desert air.

—Gray's *Elegy*.

The heights by great men reached and kept,
 Were not attained by sudden flight;
 But they, while their companions slept,
 Were toiling upwards in the night.

—Longfellow.

The Concluding Training Trips of the Stock Judging Team.

By H. D. MITCHELL, '15.



THE next trip was of an entirely different order and was taken in an entirely different direction. Prof. Barton and his team, with one or two other men from the option, left here on the night of the 17th, for Toronto, where the next two days were spent at the first annual winter show held there. Of course, no classes could be made up for the benefit of the team, but by close attention from the ring side and by comparing placings and observations with those of the judges, the team gained a general knowledge that could be had in no other way. When one considers that the animals exhibited were the best in the country, and that the judges were the best that could be obtained, it is easily seen that the men were given an opportunity to acquire a degree of balance and finish that will go a long way to rounding out their judging form. The only regret is that it could not have been made the concluding trip of the training season.

But speaking of the concluding trip reminds me that it and the Toronto trip were rather closely connected, being separated by only one hour and forty minutes (G. T. R. schedule). That is, the boys landed home Thursday morning at 6.16 and left for Chazy, N.Y., at 7.56. As could be expected of Prof. Barton, the best trip of the season, and undoubtedly the best trip of our college careers was kept for the last. One of the great pleasures of life is to have one's anticipations exceeded, and that's what happened at Mr. Miner's "Heart's Delight" Farm, Chazy, N.Y. All had

heard marvellous reports of this magnificent farm; but none had more than a faint and inadequate realization of the size and scope of this farm, its excellent stock and equipment, and its wonderful organization and management. Mere words are worthless when it comes to describing this place, which is entitled to be called Heart's Delight, if any place on earth is.

It would take a volume of this Magazine to adequately describe this farm, but a few introductory words are necessary. The farm, which overlooks Lake Champlain, consists of about 15,000 acres. This land is fairly level, and really all that is not under cultivation is devoted to range for bison, caribou and deer. The equipment of buildings is the largest and most elaborate on the continent and is complete within itself. The large number of cottages, halls, etc., that have been built for social purposes, as well as for the accommodation of visitors and servants, simply defies description. But a word must be said of Harmony Hall, where we were entertained on the evening of the 20th, the young ladies of the office staff giving a dance to the "fussers" team, while the others enjoyed pool in the room below. Harmony Hall, the latest addition to the already large number of beautiful residences on the farm, is a large four storey building, fitted in the finest possible manner, and, as the name suggests, is perfect in harmony of design and finish. Harmony would be a very appropriate name for the whole place, for not only does it apply to the layout

and design of buildings but extends to every detail of the whole system. Never has the writer seen an organization so extensive in its ramifications and employing so many men (400 were at work when we were there), where complete harmony and satisfaction prevailed among employees.

But getting down to work (and Prof. Barton got us down to work a great deal quicker than I have), we handled pure bred stock intersperced with champions and grand champions of America and France until "familiarity breeds

and spent a short—yes, all too short—time in looking over the interesting features of the place. After a short but very educative drill on Shorthorn cattle we were introduced to the forte of the farm horses. As an entrée we were treated to a good close study of the World's Champion Belgian Stallion, Sir Richelieu. Anyone who has the too prevalent misconception of the Belgian horse as being one without quality, style, and action, not to mention character, should make it his business to see this marvellous horse.



The Flock at Pasture on the College Farm.

contempt," and the appearance of an animal entitled to the honor of the champion of the world excited no unusual interest in us. We started off on Chester White swine and finished in time to deal a death blow to the dinner served us in the dining room fitted for the visitors. The afternoon was spent on Dorset sheep, and we undoubtedly handled some of the finest specimens alive of this breed. The next morning we were up bright and early

and once for all dispel the delusion under which he is laboring. Class upon class of high grade pure bred Belgian stock was thrust upon us. I say thrust because before we finished one class another entered the ring. Especially was this true of the afternoon's work which was ushered in with a thorough scrutiny of that notable Percheron Stallion, Insouciant. This horse, captured the championship of France as a two year old and is being shipped to

Chicago with every assurance of his repeating there. If classes in the plural applies to Belgians, it's classes in the plural that applies to the Percherons we judged in the afternoon, because it was dark before we finished and there were still classes waiting in the background.

One may wonder how it was possible to have so many classes of high grade horses to handle, but it's simple enough when we realize that Mr. Miner owns about 120 horses, not to mention this season's colts and about 80 mules. Even with this host of horses it is necessary to use engines for plowing and ditching.

The habit of leaving the best for the last seems to be contagious, because so far I have not mentioned a word about the versatile manager of this farm and his hospitality. This Kansas graduate has originated and perfected a system of farm organization and management that probably stands unparalleled in the history of agriculture. Mr. C. E. Hamilton has a great many duties and responsibilities, but these did not prevent him from meeting us at the station and being the last man to leave us at the train on our return, nor from devoting nearly all his time to our work and comfort. To say that he and his staff are politeness and hospitality personified is putting it mildly. We left there Friday night with some very valuable souvenirs, but our most valuable ones are our recollections of our work there and the kindness of our hosts. As Dr. Harrison, who accompanied us, put it, we left there full of food and regret.

We were obliged to spend the night at Rouse's Point on our way to Mr. R. Ness'. We reached there early Saturday morning and were given a hearty welcome, because the hospitality and cordiality of Mr. Ness are known

everywhere livestock is kept. What added to the heartiness of our welcome was the fact that so many of us were old time acquaintances of the family, and that he was deeply interested in their work, for no one takes a greater interest in agricultural education than he.

Unfortunately time did not permit us to do any work on Mr. Ness' well known herd of Ayrshires, but we spent most of our time on valuable work on his high class Clydesdales. He was able to bring out large classes of these, and the closeness of the animals made the judging an extremely difficult matter. Some time and attention were given to his Champion Clydesdale Stallion, Sir Spencer. The old veteran was not in show condition, but, nevertheless, he gave us a fine impression of the type and action of his breed. The class of 4 year old mares of this breed was a close one, too, but brought out an outstanding winner in a roan mare of true type, splendid quality and character and possessing an ideal action. The time spent on these Clyde classes cannot but prove well spent, because the character of the stock handled was of the highest order and most desirable type.

A large part of the afternoon was spent on different breeds of sheep. While no breed was represented with many classes some outstanding individuals in each breed were seen. Mr. Ness has but a few Leicesters but in them he has a foundation of the highest quality. One feature of the visit to Howick was the interest shown by the people of the neighbouring country. Many of these farmers contributed animals of exceptional merit for our benefit and in many other ways helped in making our work educative. From the amount of interest shown in our work and the hearty way in which they co-operated, one would be led to believe that this is the

foremost section of the province in the matter of agricultural education. This community has always been noted for the interest taken in this kind of work and there certainly appears to be no abatement in this interest.

One feature that has struck the writer on every trip taken by the team this fall is the hospitality, sympathy, and spirit of co-operation that is met with everywhere we had the privilege of working. Our hosts at every place vied with each other in their efforts to give a royal welcome and a feeling of encouragement in our work. The team goes to the International with every assurance that behind them there is the heartiest wishes of success from their friends and hosts on every side, and this feeling of assurance should in no small way instill the men with confidence that win, lose, or draw they have made a few worthy friends in their efforts to uphold the honor of our Alma Mater at that classical contest in Chicago.

The writer realizes fully that he is expressing the sentiments of the men on the team and of the other candidates when he tries in this feeble way to express our gratitude to all those leaders of agricultural life and improvement who have spared no efforts or sacrifices to help us in our stock judging practice this fall. And on behalf of the team, I wish to place on record our sincere and hearty appreciation of them, and especially Prof. Barton, who has done so much trying work in our behalf and whose efforts have not as yet been fully appreciated. This being only our second training season there is little room for comparison, yet it is generally conceded that the present one will be a difficult one to improve on, especially as regards arrangements and weather. As for results, we'll know them before this is in the hands of our readers, yet whatever they are, no one can say that, as far as circumstances would permit, any phase of the training was neglected.

TRUE LAUGHTER.

A laugh is just like sunshine,
It freshens all the day;
It tips the peaks of life with light,
And drives the clouds away.

The soul grows glad that hears it,
And feels its courage strong—
A laugh is just like sunshine,
For cheering folks along.

A laugh is just like music,
It lingers in the heart,
And where its melody is heard,
The ills of life depart.

And happy thoughts come crowding,
Its joyful notes to greet—
A laugh is just like music,
For making living sweet.

—*Selected.*



C. E. CHUTE, EDITOR.

The Cultivation of Chrysanthemums for Commercial Cut Flowers.

By ARCH. H. WALKER, Supt. of Greenhouses, Macdonald College.



THE chrysanthemum, when in bloom, is more favourably commented on, perhaps, than any other greenhouse or outdoor flower. This may be due to the following reason: the moderately-early varieties come into flower when all late outdoor flowering plants are either seared by cold winds or nipped by early frosts. It is then that the greenhouse is sought and the glories therein admired. Carnations, violets, roses, sweet peas and others are favourably commented on in passing, but when the chrysanthemum is reached, the visitor gives expression to his delight in truly flowery language. The wide range in colour from pure white to bronze, the size of individual flowers, their varied forms from close incurled to the loose or fluffy types, singles and pom-poms; the length of stem well clothed in heavy dark green foliage, in itself something to admire, and last, but not least, the lasting quality of the flower, when cut, all tend to enhance the beauty of the chrysanthemum.

Space will not permit dealing as fully with the subject as is desirable, but an endeavour will be made to outline the method of handling this flower for the production of commercial cut flowers.

The plant, being a greenhouse perennial, is propagated by cuttings of sucker growth, which spring from the base of the plant. As the flowers are cut from each variety, a certain number of plants are lifted out and planted close together on a bench, until the time for propagation arrives, the balance lifted out and thrown away.

March and April are the months for propagation. The growths referred to are taken from the plant and trimmed and placed three inches apart in the propagating bench. This is a raised bench filled with sand to a depth of four inches, bottom heat is applied from 60 to 65 degrees and an air temperature of from 45 to 50 degrees. The cuttings are watered and sprayed regularly and shaded from the sun until roots form, after which all possible light is given. In four weeks sufficient roots will have formed for potting. For this purpose,

2½ inch pots, well drained, with broken pots or cinders in the bottom, are used, the plants being firmly set in a rich loam and grown along in a cool greenhouse for forty to fifty days.

Re-potting. This is done before plants get potbound and commence to suffer from lack of nourishment, which can no longer be had in the small pot. Four inch pots, filled with a rich turfy



loam, are used for this shift. This loam has sufficient sand incorporated with it to insure free drainage, the plants being firmly potted and grown along as cool as possible, to induce sturdy growth.

Planting to Benches or Beds, and Soil Used. In order to obtain the best results,

planting is usually done not later than the second week in June. The soil used being the best procurable, one made up as follows is excellent for the purpose.: well rotted sod, six parts; well rotted manure, one part, sand in proportion to nature of loam, and one pound of bone meal to an ordinary wheelbarrow of the whole. This is all well mixed and firmly packed in the benches. The plants, after being turned out of pots, are set in these benches, ten inches apart each way.

The plants from now on require some support, and as growth is very rapid, this is given immediately after planting. Wires are stretched lengthwise from supports at each end of the bench, about four feet above bench level, one wire over each row. Upright wires of a heavier nature are placed inside each plant and secured to the overhead wire, the plants being secured to these, and at intervals afterward, as growth requires.

Close attention has to be given from now on, the soil never being allowed to become dry, as this would cause premature ripening of the wood—a serious matter, especially in growing for exhibition purposes. Syringing at least twice daily during bright weather has to be done in order to keep plants free from red spider and thrips, also dampening of the paths frequently for the same reason, and to add to the humidity. Spraying or fumigating must be attended to when necessary, to control green and black aphids.

Pinching or Stopping. During the first week in July, the plants are pinched or stopped, as gardeners term it. This consists of cutting down the growth somewhat. Growers differ somewhat regarding this, the writer's method being simply to pinch off the points of the growths, thereby leaving all the foliage possible on the plant. Lateral growths

then develop, the desired number, from three to six, being retained, the rest removed.

Taking off Buds. The chrysanthemum differs from almost any other plant known, in that it produces three different flower buds at intervals during its growth. The first two are termed crown buds, being distinguished from the outer or terminal bud by the growth buds which surround it, whereas the terminal bud is surrounded by other flower buds. Having the option of

cause damping of the petals and tend to cause mildew on the foliage. Watering has to be kept up, however, advantage being taken of bright weather to do this early in the forenoon, care being taken not to wet the flowers.

Temperature. When artificial heat is necessary, a night temperature of from 45 to 50 degrees is maintained; when natural heat is used by day, the temperature may be allowed to go five to ten degrees higher by sun heat. Night temperature must be maintained during



retaining whichever buds desired, it is simply a question of variety which are retained. Very early varieties are taken on the first crown, moderately early on the second crown, mid-season on the second crown or terminals (depending on the variety), and late varieties on the terminals

When the buds begin to show colour, syringing of the plants and dampening of the paths must cease, as an excess of moisture in the atmosphere would

dull weather, and air given in abundance whenever possible.

By using very early and late varieties, the season may be made to extend from September until Christmas, after which such crops as sweet peas, lettuce, or cauliflowers, which have been grown along in pots or boxes for the purpose, may be planted to finish out the season, or the space may be used to stand potted plants such as geraniums for summer bedding purposes,

Production of No. III. Apples.



FORGET to prune in March, and neglect it later. Do not spray in April, for there are no bugs alive then, anyway. Do not spray later, because of the rush of other farm work. Take it for granted that the orchard does not amount to much, anyway, and cut hay and other grain crops, instead of practicing clean cultivation with cover crops. When the best orchardists in the neighbourhood get together and form a co-operative asso-

ciation, be independent and have nothing to do with it.

The high price of first-class apples of all varieties this year should have its effect on this type of grower. Of course, he contends that his apples sold as well as Mr. Goodfarmer's, or as well as the Association's. Well, perhaps they did on one specific shipment, when the market was loaded with his type of fruit, thus undermining the market for good fruit.

C. E. C.

Problems of the Fruit Grower.



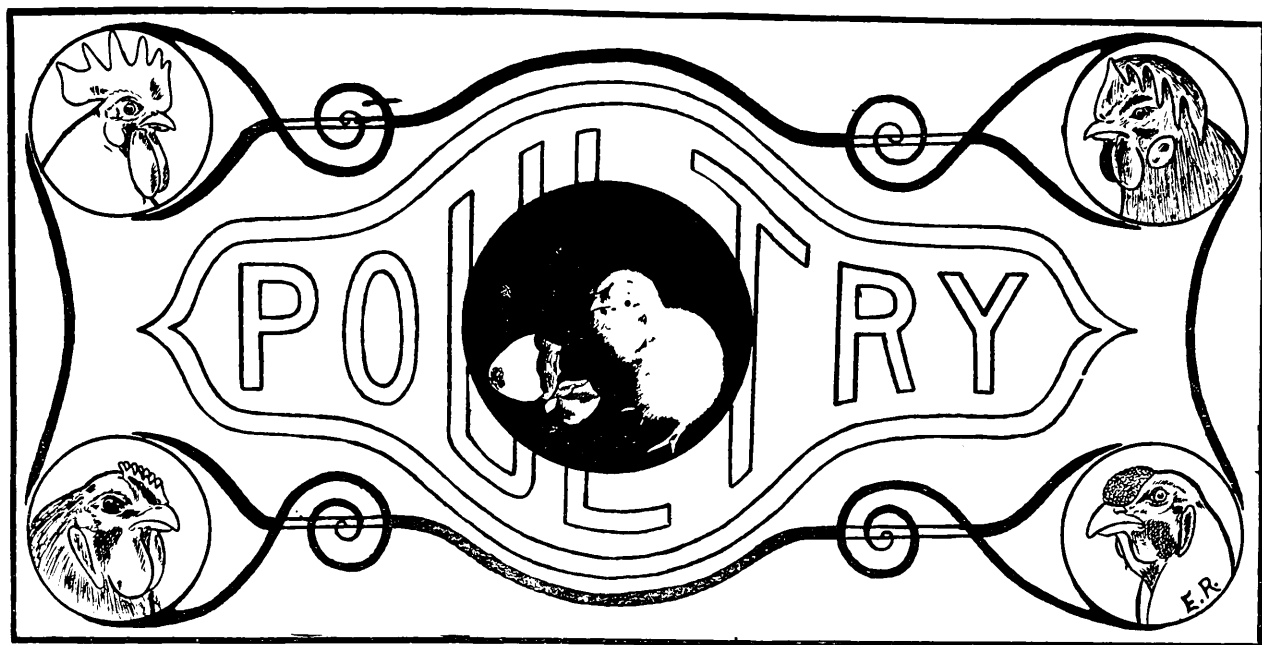
DURING a sitting of the Select Standing Committee of the House of Commons, on Agriculture and Colonization, a few months ago, it came out in evidence that many apple growers were last year unable to secure more than from 75c. to \$1.00 per barrel on the tree, and in some districts hundreds of barrels of good fruit were allowed to fall to the ground and rot because no profitable market could be found for it. It came out also that in the western provinces consumers were required to pay from \$5.00 to \$5.50 per barrel for good fruit. Mr. J. A. Ruddick, Dairy and Cold Storage Commissioner, in giving evidence on this question, pointed out that about \$1 75 per barrel was received in the Lake Ontario and Lake Erie Districts by the members of co-operative associations, while independent growers received about \$1.00 per barrel. The Commissioner, in referring to the discrepancy between the first and final prices of apples, estimated that the unavoidable expenses amounted to about \$2.23 per barrel, made up as follows:

barrel, 45c.; picking, 17c.; management expenses or commission to a local buyer, 19c.; freight to Winnipeg, 80c.; broker's commission, 12c; and retailer's profit, 50c. per barrel.

As evidence of the value to the grower of co-operation, Mr. Johnson instanced the case of a woman who was offered by a local buyer \$125 for her crop, for which she received, through a co-operative association, \$1,035.

Mr. Chute, who represented 1,500 farmers, as manager of the United Fruit Companies of Nova Scotia, explained that, through his organization, 5,000 tons of fertilizer had been bought from the manufacturers for the members who had benefited to the extent of about \$15,000 on purchases of fertilizers, spraying machines and materials, farm implements, seeds and other requirements.

Equally interesting evidence was given by the other witnesses, all of which appears in a pamphlet of 116 pages that has been printed for public distribution by the Publications Branch of the Department of Agriculture at Ottawa.



A. G. TAYLOR, EDITOR.

Special Poultry Work.

A Little History in Connection with the First Special Poultry "Feeding Stations" carried on by the Dominion Government, and Some Detail that may be Interesting to Poultrymen To-Day.

By F. C. ELFORD, ESQ. Dominion Poultryman.



SPECIAL poultry work, in the form of fattening stations, was started in Canada in the year 1898, when the Honorable Sidney Fisher was Minister of Agriculture, and Professor J. W. Robertson, Live Stock and Dairy Commissioner.

Up to this time, and since 1885, poultry experimental work had been in existence at the Central Experimental Farm, under the direct supervision of the late Professor A. G. Gilbert, Canada's veteran poultryman, and by him many and valued experiments were carried out. The work started through him has since grown, until now, the Experimental Farm system is a network of branch farms throughout the whole Dominion, all of which are interested in poultry work.

But these fattening stations were "special," an extra, so to speak, and were for the purpose of taking to the farmer what every farmer had not been able to see. The official who first had this special department under his direct charge was Mr. Frank C. Hare, now of the Poultry Division, United States Department of Agriculture, Washington. This work, directed by Mr. Hare, has gone on and on, and though discontinued by the Government, has meant much to the poultry industry in Canada. Prior to and at the time of this special work, the Canadian hen was not of much importance. The Census of 1891 gives a little over fourteen million head of poultry, but, apparently, no record was kept of the eggs laid or poultry killed and sold. Evidently they were not of sufficient

account for the Census to take note of. At that time, eggs sold for as low as 6 and 7 cents a dozen, and dressed poultry at 25 to 30 cents per pair, and both eggs and poultry had to be "traded" out at the store. True, these prices may have been all the produce was worth, for no attention was paid to the hens. Eggs were gathered when most convenient, and marketed when groceries were wanted. No special feeding was given the poultry and a good deal of it never saw any feed, except what it ruffled for. At this same time, or about 1898, dressed poultry was bringing a good price in Great Britain, and Professor Robertson investigated their methods of marketing, and it was decided to use their methods to cater to their own markets.

As a result of this investigation, two poultry stations were established in 1898 for the purpose of obtaining information regarding the cost of fattening chickens in Canada for the British market, the best means of transporting them in safety, and the prices obtainable for that class of Canadian poultry on the British market. At that time, a great change was taking place in Great Britain regarding the classes of food most in demand; and whereas the English diet used to be called one of beef and bread, and bread and cheese, it was becoming, in a large measure, one of cold ham and chicken. This change of diet had brought about a great demand for bacon, ham and chickens.

FATTENED VERSUS LEAN CHICKENS.

One morning, in 1898, 101 average chickens were bought on the market in Ottawa, just as they were brought there, alive, to be sold for food. These chickens were put in crates, some placed in an open shed and others beside

a close board fence outside, with a board protection over the top. The chicks cost 38 cents a pair, and were fed ground oats, valued at \$1.00, and skim milk, at 20 cents per 100 lbs., respectively. For every pound of increase in live weight they consumed, on an average, 5.44 lbs. of ground oats, plus 6.43 lbs. of skim milk. The cost was nearly 6¾ cents per lb. of increase in the live weight for feed only.

Three birds, representative of the lot, were killed immediately. They were dressed and then steamed until they were fairly tender. After being steamed, they were put aside, wrapped in napkins, for two days. During that time they probably lost a little in weight, but, being wrapped up, the loss would be very little. All the edible portion was then removed and was found to weigh 2 lbs. 6 oz. After the chickens in the crates were fed in the way mentioned, three were selected, as nearly an average of the lot as possible, and killed. After being treated the same as the first three, the edible portion was removed and was found to weigh 7 lbs. 6 oz.; more cold meat, per chicken, from those that had been fattened than from all three that were killed without being fattened.

The following table showed the difference in the weights of representative chickens killed before being fattened, and similar chickens after being fattened.

WEIGHT OF THREE CHICKENS.

	Before Fattening	After Fattening
With feathers off	8 lbs. 8 oz.	16 lbs. 4 oz.
Ready for cooking . . .	5 " 2 "	11 " 6 "
After being cooked and left to cool two days.	3 " 8 "	9 " 2 "
Bones	1 " 2 "	1 " 11 "
Edible portion	2 " 6 "	7 " 6 "

This showed three times more edible portion from the fattened chickens than from the others, and every ounce of it was of better quality.

The two stations before mentioned were established at Carleton Place, Ont., Jos. Yuil, manager, and Bondville, Que., with A. P. Hillhouse, manager, and below is given a statement of the first lots fattened at these places.

These stations were located on farms, in charge of the farmer, the equipment being a number of fattening crates, the shaping board, and boxes for shipment. Chickens of a good utility type were bought and fattened, different rations being used, according to the market value of the grain, oats, barley and buckwheat, giving general satisfaction. The chickens were killed, dressed and shaped according to approved methods, after which they were marketed. The operations extended from two to four months.

STATEMENT OF FIRST LOT OF CHICKENS FATTENED
AT CARLETON PLACE, ONT., SEASON OF 1899.

120 Chickens	Grain	Skim Milk	Gain in Wght.
	lbs.	lbs.	lbs.
Feed and gain, 1st week..	175	220	93
" " " 2nd "	220	260	27
" " " 3rd "	245	290	129
" " " 4th "	280	375	18
" " " 5th "	375	430	16
Total feed and gain.....	1,295	1,575	283
Feed consumed per lb. of gain in weight..	4.5	5.5	

Number of chicks..... 120
 Cost..... \$29.34
 Cost per chicken put in coops.23
 Grain consumed. 1,295 lbs.
 Skim-milk consumed..... 1,575 "
 Total gain in weight..... 283 "
 Gain in weight per chicken..... 2 2 "
 Cost of feed per lb. of gain..... 6½c
 Sold, per pair, in England..... \$1.51

STATEMENT OF FIRST LOT OF CHICKENS FATTENED
BONDVILLE, QUE., SEASON OF 1899.

204 Chickens	Grain	Skim Milk	Grain in Wght.
	lbs.	lbs.	lbs.
Feed and gain, 1st week..	435	545	86½
" " " 2nd "	565	730	140½
" " " 3rd "	660	845	153½
Total feed and gain.	1,660	2,120	380½
Feed consumed, per lb. of gain in weight.	4.36	5.57	

Number of chickens. 204
 Cost. \$47.00
 Cost per chicken put in coops.23
 Average gain in weight per chick. 1.8 lbs.
 Cost of feed per lb. of gain..... 6.4c.
 Sold, per pair, in England..... \$1.25.

Below will be found statements of lots of chickens fattened at two of the stations during 1903 and 1904, which, on comparison with the preceding statements, show that the teaching imparted made it possible to produce fleshed chicken at a lower cost per pound.

STATEMENT OF LOT OF CHICKENS FATTENED
AT STANFOLD, QUE., 1903.

Number of chickens..... 211
 Weight " "..... 677 lbs.
 Cost. \$47.39
 " of meal..... 11.50
 " of milk..... 1.39
 Total cost of chicks. 60.28
 Total lbs. of gain. 316
 Cost of one lb. of gain. 4c.
 Dressed weight. 762 lbs.
 Market value. \$95.25
 Profit over cost. \$34.97

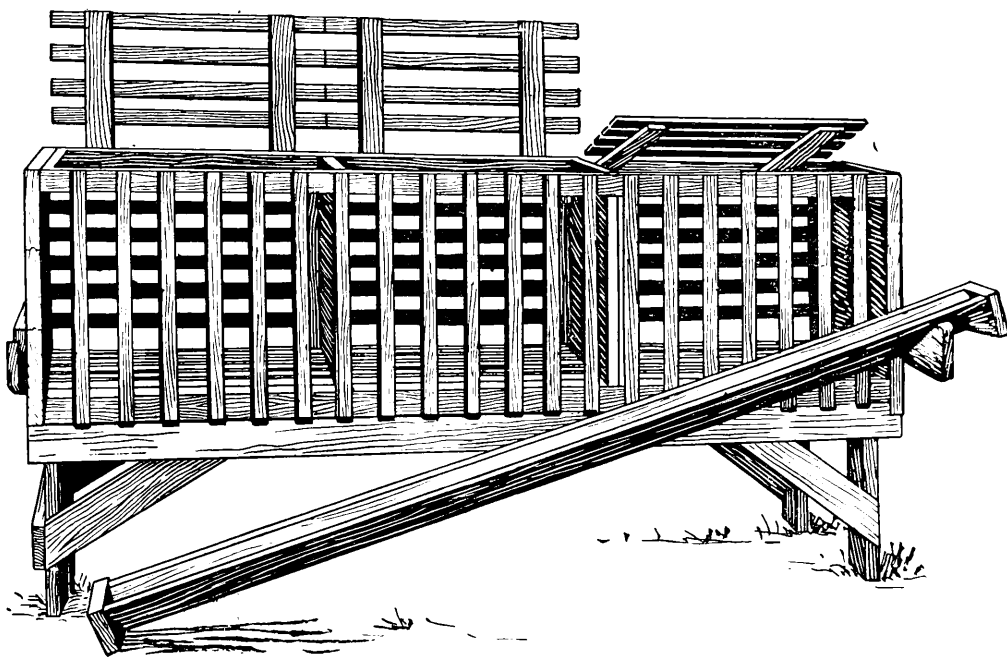
STATEMENT OF LOT OF CHICKENS FATTENED AT
BOWMANVILLE, ONT., SEASON OF 1904,

Number of chicks..... 434
 Weight " "..... 1,332 lbs.
 Cost " "..... \$93.24
 " meal..... 16.31
 " milk..... 7.34
 Total cost of chicks. \$116.89
 Total gain..... 594 lbs.
 Cost of one lb. gain..... 3.9c.
 Dressed weight..... 1,573 lbs.
 Market value. \$204.49
 Profit over cost..... \$87.60

This statement does not show the actual profit, as most of the birds were sold at 15c. per lb., but the price was put at 13c., as this was offered for the output of all the stations.

These chicks were good type American class. The foundation of the ration was finely ground oats mixed with butter-milk; a small percentage of other meals was added to make it more palatable. Similar results may be obtained by any person having proper chickens, fed judiciously on a palatable ration.

each compartment holds four chickens. The frame pieces are 2 inches wide and $\frac{7}{8}$ inch thick. This frame (Fig. 1) is covered with slats. The slats are placed lengthwise on three sides—bottom, back and top, and up and down the front. The slats for the bottom are $\frac{7}{8}$ inch wide and $\frac{5}{8}$ inch thick; the back, top and front slats are the same width, but only $\frac{3}{8}$ inch thick. The spaces between the slats in front are 2 inches wide to enable the chickens to feed from the trough. The bottom slats are put on $1\frac{1}{2}$ inches



Fattening Crate.

In all there were established since 1898, thirty-seven stations, located in the different provinces. This work was continued until 1906, when it was taken up by private persons, and it has now become quite an industry, and has been kept largely among the farmers who are still getting the bulk of the profit themselves.

THE FATTENING CRATES

The fattening crates generally used are 6 ft. long, 16 inches wide, and 20 inches high, inside measurements. Each crate is divided by two tight wooden partitions into three compartments and

apart, and the slat nearest the back of the crate is $2\frac{1}{2}$ inches from the corner piece. The bottom slats are placed upon the top of the bottom cross pieces of the frame, to prevent the chickens' feet being bruised when the crate is placed on the ground. The top slats are 2 inches apart, and the back slats $1\frac{1}{2}$ inches. The top slats are cut above each partition, and six strips, 2 inches wide, are nailed under them. The three doors so formed are hinged to the rear corner piece.

The crates are placed on stands, 16 inches from the ground. The droppings from the chickens are received on sand

or other absorbent material. A light "V" trough, $2\frac{1}{2}$ inches inside, is placed in front of each crate and is carried on two brackets nailed to the ends of the crates. The bottom of the trough is 4 inches above the floor, and the upper inside edge is 2 inches from the crate. Any kind of a crate that serves the purpose will answer, but this has proven suitable, and when you are making one, it costs no more to do it well, and they will last for years.

FATTENING RATIONS.

A satisfactory fattening ration is one that is palatable and not too high in price. It was found that ground oats, finely ground, or with the coarser hulls sifted out, gave a white colored flesh; ground corn resulted in a yellow-colored flesh; ground peas imparted a hardness to the flesh that was not desirable. Ground oats, ground buckwheat, ground barley and low grade flour, and other grains that may be grown on the average farm, were suitable meals for fattening.

The ground meal was mixed to a thin porridge with thick sour milk, or buttermilk. On the average, ten pounds of meal required from 15 to 17 pounds of sour skim milk. A small quantity of salt was added to the mash.

When sufficient skim milk, or buttermilk, could be obtained for mixing the mashes, a quantity of animal and raw vegetable food was added to the fattening ration.

FATTENING.

The chickens remained in the fattening crates from two to five weeks. Some chicks will fatten more readily than others. These were picked out a week before finished. During the last week, a little beef tallow was sometimes fed, shaved into the feeding trough along

with the mash; about one pound of tallow per day to fifty or sixty chickens. Before the chickens were placed in the crates, they were well dusted under wings and tail with sulphur, to kill the lice. They were again sulphured three days before being killed.

BREEDING STATIONS.

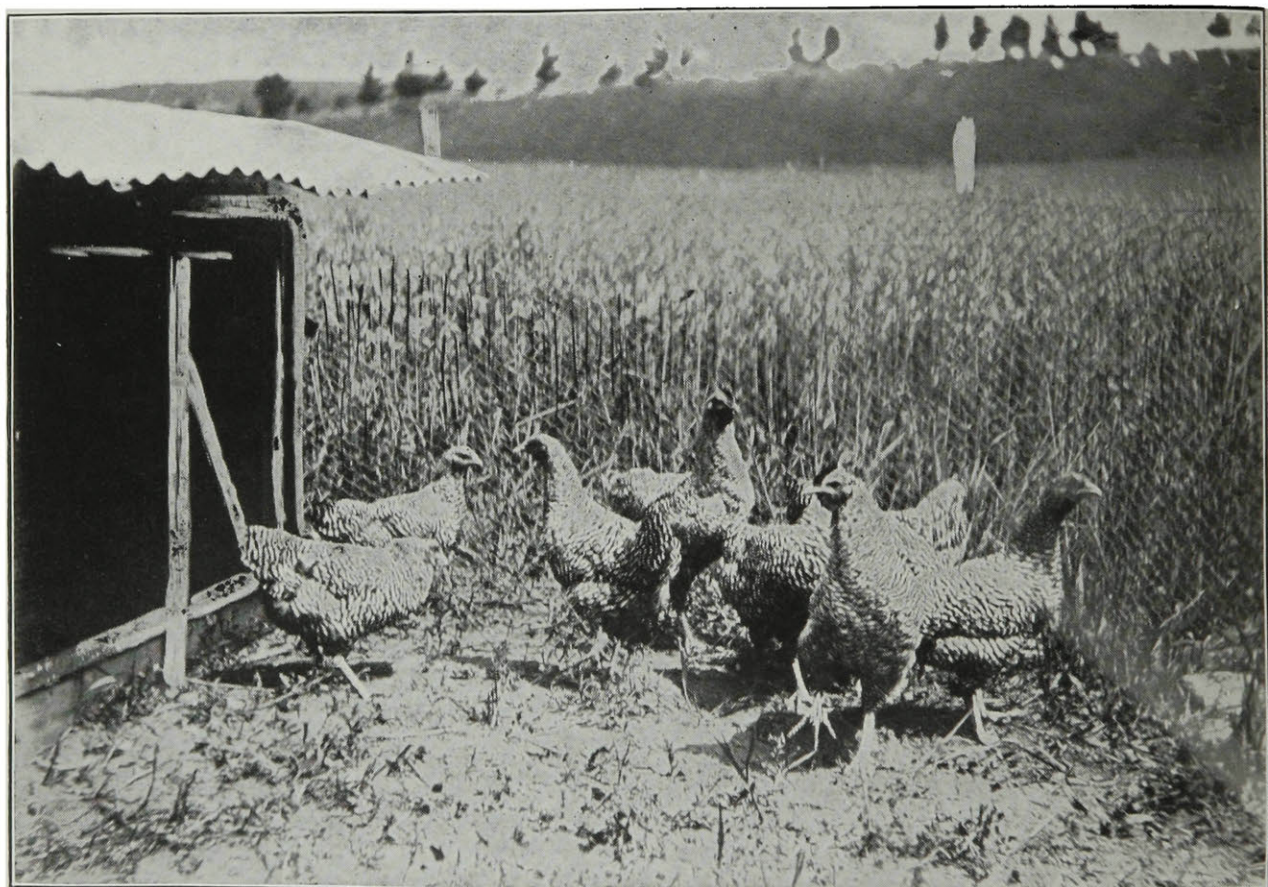
Considerable difficulty was experienced by the operators of the rearing stations and by farmers who were desirous of improving the type of their fowl, in procuring eggs of the proper kind. Therefore breeding stations were established in conjunction with some of the fattening stations. The work of the breeding station included that of the fattening station, and had, in addition, up-to-date appliances for hatching and rearing, and poultry houses to accommodate from 100 to 150 breeding stock. This stock provided eggs for hatching in the incubators, and also a limited number of eggs for selling to the farmers during the breeding season, thereby helping to put a better stock on the average farm. The breeding stock usually consisted of about fifty one-year old hens, and 100 pullets, with ten or twelve cockerels. None were kept after the second laying season, and only the best spent more than one year in the pen. In June, the breeding season being over, the fifty best pullets were picked out and kept for another year. The others, if not sold for breeding purposes, were crate-fed and put on the market. If marketed at this time of year, before spring chickens are ready, the price was good, and hens one and two years old, crate-fed for about two weeks, made very tender and juicy eating. In fact, it was sometimes difficult to distinguish them from spring chickens.

SELECTION OF A SUITABLE BREED.

SOME OF THE RESULTS.

When pure-bred and scrub chickens were reared under similar conditions at the illustration poultry stations, pure-bred chickens of the utility type made a more rapid and economical gain in live weight than did scrub chickens. Also, in crate-fattening, the pure-bred chickens made a greater gain in live weight than the scrubs, and the cost of feed, per pound of gain in live

The work has been of great benefit in taking the illustration to the farmer, by distributing literature, in the form of bulletins and addresses, and by showing, through its stations, the proper type of fowl to breed from to obtain the chick profitable in the fattening coop, and the best method of fattening and preparing for market, etc. The industry was looked upon as a growing



Barred Rocks, bred to Lay as well as to Produce Flesh.

weight, was less with the pure-breds. At the age of four months, the pure-bred chickens were fattened and ready for market; they were of uniform quality and appearance. At no age were the scrub chickens as salable as the pure-breds. For meeting the demands of the higher class local markets, or for exporting to Great Britain, scrub chickens were not satisfactory.

one, and no pains were spared to lend assistance in every way possible. This was done by selling eggs for hatching at 25c. a dozen, when sometimes the market price for fresh eggs was 35c. and 40c., and other eggs of equal breeding were worth from \$1.00 to \$2.00 per setting; by selling cockerels and pullets at 50c. each, when they might have been sold for as much or more as

broilers four months earlier, and private birds of equal value sold for more than double. In order to encourage the local trade, fattened chickens were disposed of for less than could be obtained for them by shipping.

This was a stimulant to the poultry industry. Many farmers, who would otherwise have used their own eggs and cockerels, purchased them from the Government because the price was so reasonable. A few years of this work made a great difference in the average farmer's flock.

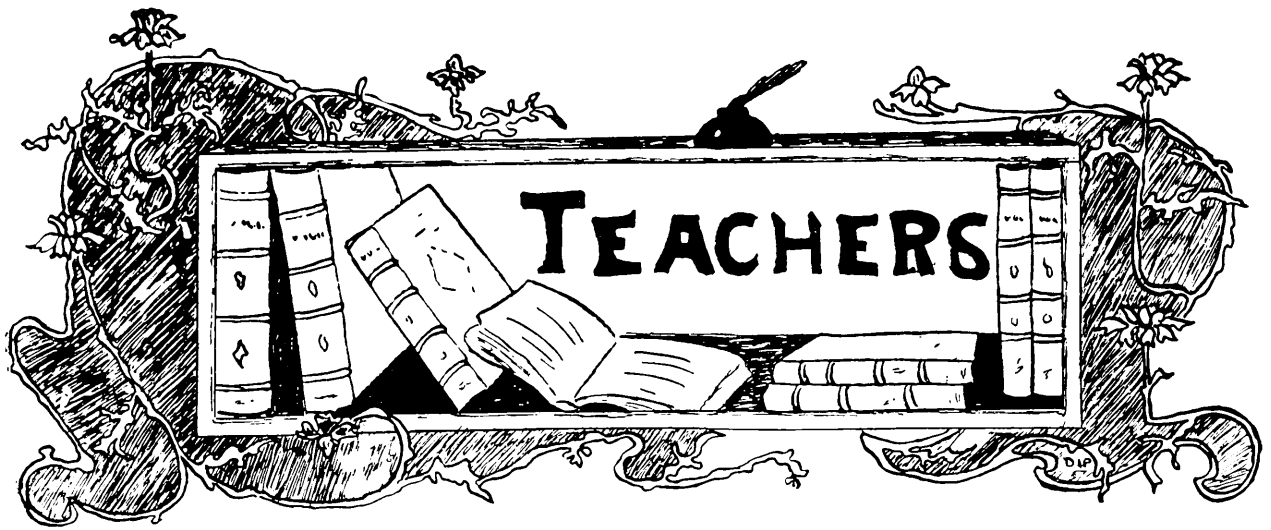
Instead of working against the fancier, this was a help to him, as the average farmer would not pay the fancier's price for eggs or a male, though he might be willing to pay the lower price for Government eggs and stock. In a year or two, when he wanted something better, he would be interested enough to pay the higher price to the fancier to further develop his flock. Almost every purchaser of Government eggs or stock became a new customer for higher quality stock later. The great demand for eggs and stock throughout the Dominion was evidence of this, as was also the increased exhibits at the shows.

There were other results of this investigation, in that the increased quality of the dressed poultry increased the local demand to such an extent that never since has Canada been able to supply her own market, and though the primary idea was to prepare for

the export trade, there is now practically none to export. As soon as the quality improved, the taste for chicken grew and the demand increased, and at present the prices are such that there is a good margin for the man who produces the finished article.

The work started by the Government in this special work has been continued by private enterprise, and was an example of the value of this to the farmers; take one of these stations situated near lake Huron, in Western Ontario. Previous to the starting of a fattening station at a little village called Holmesville, the poultry crop was not considered worth while for a full grown man to even think about. When the Government discontinued its work, it was taken up by a farmer's son, who also taught the school. In two years' time, he gave up his school and devoted all of his time to the poultry. Besides running the plant, he handled the produce from the farmers in the vicinity, and last year he handled 229,000 dozen of new laid eggs and 204,148 lbs. of dressed poultry, paying out for poultry produce over \$70,000. It is one of the money crops in that locality now, and full grown men are glad to be interested in it. Indeed, it is doubtful if there was any demonstration work carried on in the Dominion Government that meant more, compared with its cost, to the farmer than did the old "fattening stations."





MISS B. POMFRET, EDITOR.

The Relation of Manual Training to Modern Industries.



OF all the aims of education, the one of most vital importance to our people is "Training for Citizenship."

This training may be made extensive or limited, all depending on what we wish our citizens to be.

An intelligent citizen should have some knowledge of the social relations of man; should understand the different steps in the production and distribution of commodities; should know something of the industries, of inventions and of engineering problems, and should be able to utilize this knowledge when necessary.

A century ago the boys were given an opportunity to make a first-hand study of industrial processes. Then, everything centred about the home, which was in itself a little industrial community. Each member of the family had its duties to perform. The members of the family made furniture and raised all their food products. They sheared, spun, and wove the material for their clothing, and thoroughly understood every step in the processes.

Blacksmith shops, mills and factories were ever open to inspection, and were not infrequently visited. Living thus, in an environment which breathed industry, invention and progress, with all these opportunities for good, wholesome occupation, and, consequently, with little chance for temptations to lead them astray, the boys were, at an early age, pretty well versed in the practical affairs of life, and with proper home influences and the necessary schooling, well qualified to fulfil the duties of a citizen.

To-day, everything is changed. The factories have come, and have starved out the simple home industries. They furnish the necessities and luxuries of life all ready for use. They have even gone so far as to attempt to furnish predigested foods. Now, what can we expect of the boys of to-day? The simple industries are gone, the doors of the great factories are closed to visitors. the fathers supply all wants, and the boys are left to work off their energies, as long as they last, by loafing in places where they are exposed to bad influ-

ences, and where habits are formed which lead them continually in the wrong direction. There is a period in the life of most boys in which physical activity must be the principal medium for successful training, and our great problem is to so direct these activities as to form valuable habits. There are, of course, many boys who have the will power to hold themselves to academic study, and to resist all this temptation to dissipation, but the majority need to come into closer touch with the realities of life, by actually doing some of the things they will later be compelled to do.

We should do more work in our schools which is directly related to the affairs of the outer world. Much is already being done through the use of new methods in history, geography and other branches, where the subject-matter is taken up in its true relations, instead of being taken as so many isolated facts to be memorized. Nature study, elementary science, and agriculture are valuable subjects which may be used as a part of the regular school work, and which have a significance of their own

outside the school. It is not always sufficient simply to read or to be told facts concerning industries, inventions, or processes, and it is here that manual training finds a duty to perform in furnishing a foundation on which to base these facts.

The choice of manual training problems is a subject which needs careful consideration. While the most important aim in manual training is to train the mind and to establish correct habits, it is possible, through a proper choice of problems, to obtain this training and, at the same time, to give the pupils a first-hand experience with some of the important phases of the world's great industries. Thus far, manual training has been related to only a few industries in a general way, but the number represented may be greatly increased and closer relations obtained by using problems which are typical in various industries. There are many schools which have begun to consider this side of the work, and are introducing problems of the industrial type.

G. E. E.

The Annual Convention of Protestant Teachers.



IS there a parade of suffragettes this morning?" was the question asked by an impatient Sherbrooke man on Thursday morning, Oct. 16th. He had passed several groups of young ladies chatting on the street. "Why, no," was the laughing reply, "these ladies are here to attend the Convention of Protestant Teachers."

Yes, contrary to the custom of many years, Montreal was not the meeting

place for hundreds of teachers this Fall. Instead, was chosen the picturesque city of Sherbrooke, situated on the St. Francis river, some one hundred and five miles from Montreal. Many who had never been in Sherbrooke before remarked what a delightful city it was. No, I do not intend to enlarge on the beauties of our Eastern Township cities.

Shall I say that each and every one of us attended the convention for the sake of it alone? No, I shall not

wander so far from the truth. I'm sure many will bear me out in the statement that the meeting of old friends and the thoughts of going home were great inducements to some.

Someone very unwisely prophesied that the attendance would be poor because of change of place. He needed but to look in the hall of the Art Building to see how sadly he was mistaken. Hundreds crowded the hall. Montreal was well represented, but it is believed that the majority was from surrounding country schools.

We shall not go into detail about the programme. One would have to be there to realize the privilege of mingling with men and women who have had years of experience in the art of teaching. No year of school life was left untouched from kindergarten to high school. No work was neglected, from French phonics to school-room decoration. One attended those lectures he was most interested in

A keen disappointment awaited hundreds of old Macdonald students who assembled to hear Dr. Sinclair speak. He was unable to be present. Although his report was read, many left the hall without waiting.

The greater part of the time on Saturday morning was spent in routine business; therefore, many left the city Friday night. In this way they were able to eat their Thanksgiving dinner with their own family on Monday,

In short, therefore, we would describe this meeting of teachers as an opportunity given us of gathering up ideas, as it were, from learned minds to carry back with us to the daily routine of school work filled with fresh energy to go on to new tasks.

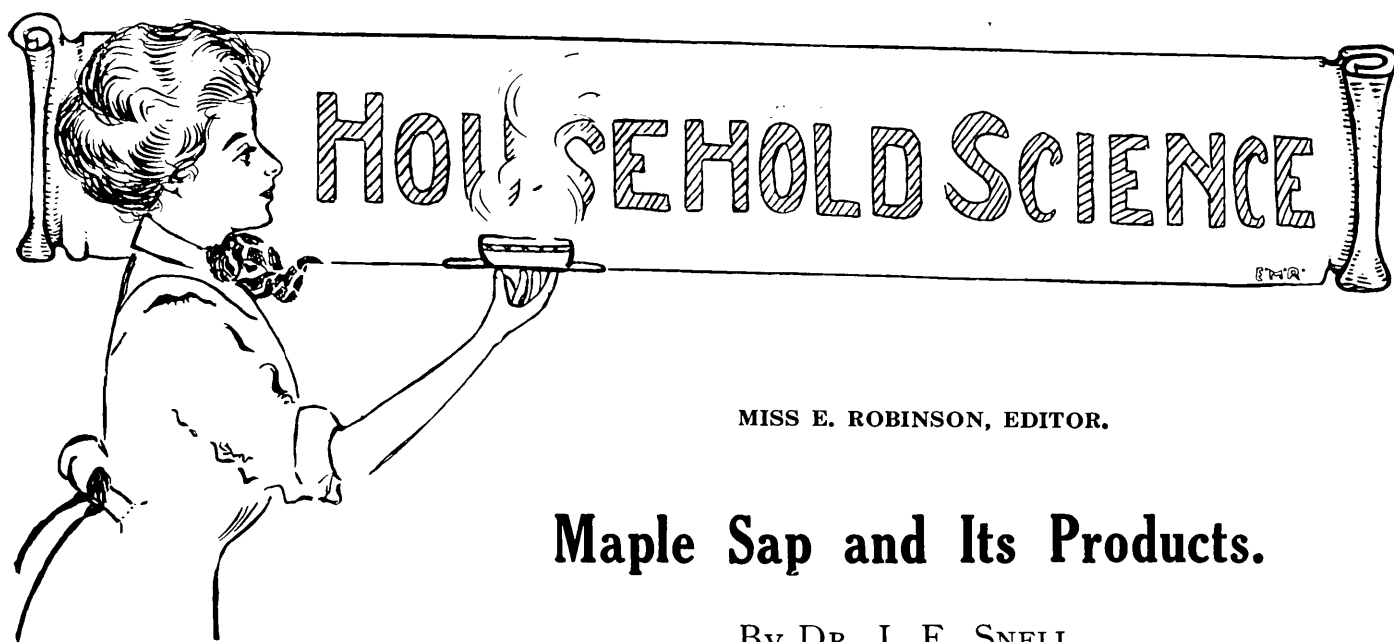
ELLA J. STUART, '13.

DR. SINCLAIR VISITS MACDONALD.

His many friends were delighted to find Dr. Sinclair in their midst once more on Friday, Nov. 7th. Dr. and Miss Sinclair have been spending the summer on their farm in Muskoka, and visited Macdonald for some time prior to their departure for the South to spend the winter. The Doctor is much improved in health after his rest, and his scores of admirers among staff and students alike wish him and Miss Sinclair a very pleasant trip.

Public prosperity is like a tree; agriculture is its roots; industry and commerce are its branches and leaves. If the root suffers, the leaves fall, the branches break and the tree dies.

—*Chinese Philosophy.*



MISS E. ROBINSON, EDITOR.

Maple Sap and Its Products.

By DR. J. F. SNELL.



THE value of the maple orchards to the Province of Quebec may be gauged by a comparison of the census returns for maple syrup and sugar with those for fruits. Our production of orchard and small fruits in 1911 is appraised at \$1,469,537; that of maple sugar and syrup at \$1,680,393. The maple sap industry is not only one peculiar to the region of North America, in which our Province is situated, but is also unique in its relation to farm management. The harvest of the crop comes at a season of the year when work upon the land is impossible, and its proceeds come into the farmer's purse when income from other sources is at a standstill. Requiring strenuous labor during its harvest season, the maple crop demands but little attention during the rest of the year. This branch of agriculture is one well worth cherishing, and one in which the interest of the young people of our countryside is easily enlisted. I trust, therefore, that some account of the chemistry of maple sap and its products may prove acceptable to the readers of the MACDONALD COLLEGE MAGAZINE.

Maple sap consists of water, sugar, salts and proteins. The water constitutes ordinarily from 95 to 98 per cent. of the whole. The sugar is the second most abundant constituent. It may run from 1 to 10 per cent., but is seldom over 4 per cent., and averages about 3 per cent. There are salts of organic and probably also of inorganic acids. The proteins (albumen) are present in only small quantities.

Sap is a very perishable product. Like milk, it forms an excellent medium for the development of micro-organisms. Towards the end of the season, when the weather is warm and the flow of sap is intermittent, the spouts and buckets are apt to become badly infected with microbes, which get into the sap and multiply rapidly. The Vermont Agricultural Experiment Station has recently published a bulletin of 600 pages describing the studies made by its officers on the influence of micro-organisms in spoiling sap. They conclude that, although there is really such a thing as "buddy sap," that is to say, sap whose flavour has been injured by the physiological changes occurring in the tree as it resumes its summer activity yet most of what is called "buddy sap"

is really sap spoiled by micro-organisms, which, as we have already intimated, find conditions particularly favorable to their growth toward the end of the sugar season. Much sap, even of the last runs, which now spoils and is converted into a very poor quality of tub sugar, could be saved and made into good syrup, if proper attention were paid to the cleanliness of the spouts, buckets and gathering tanks.

In sap-boiling, the protein coagulates, just as egg albumen does, and rises to the surface as a scum. As the boiling is continued and the sap approaches the consistency of syrup, a sediment of "sugar sand" deposits. The main constituent of this sediment is malate of lime, and from this two products of value are obtainable by a process discovered by Prof. W. H. Warren, of Wheaton College, Norton, Mass., and afterwards independently by Mr. Grant Lochhead, in the Chemical Laboratory of Macdonald College. One of these products is calcium bi-malate (bi-malate of lime), which is, from the physiological standpoint, perhaps the best acid constituent for baking powders yet discovered. Professor Warren has used it to make up baking powder, and found it entirely satisfactory. It is doubtful whether, and in my opinion hardly probable that, it can be made either in sufficient quantity or at a low enough price to compete with cream-of-tartar—much less with a lime and acid phosphate of lime, which are the acid constituents of perhaps three-fourths of the baking powders used in Canada to-day. It is, however, quite possible that calcium bi-malate may find a place as an ingredient of baking powders for the better class of trade.

The second valuable product of sugar sand is malic acid itself. This substance now sells at ten dollars a pound. If

there were to be put into my hands all the malic acid producible from the maple sugar sand of a single season in Canada and the United States, and I could dispose of it at the present price, I should be a millionaire. This does not mean that there is an actual waste of a million dollars, because it would cost something to collect the sugar sand, and something to transform it into malic acid. Moreover, if this large supply were suddenly thrown upon the market there is little doubt that the price would come down. Indeed, malic acid might become a veritable "drug upon the market." There is but little demand for the acid at its present price. But I have no doubt that if the acid were produced in large quantity and sold at a lower price, many uses for it would be found. So that, although the annual waste is not a million dollars, it is, nevertheless, an actual waste, probably amounting to many thousands of dollars.

Sugar sand is at present a waste product. Calcium bi-malate, malic acid and whatever products may be manufactured from them are potential by-products of the maple-sap industry. But the main products are, and will remain, maple syrup and maple sugar.

According to the standards adopted at Ottawa, maple syrup must not contain over 35 per cent. of water. It is folly to boil it down further. One uses more fuel and gets less syrup, and the syrup is apt to crystallize. Sugar crystals in the bottom of a can or bottle always excite suspicion in the minds of the ignorant, and even those who know that this is no sign of adulteration, prefer to have their syrup entirely in the form of syrup. On the other hand, it is dangerous to leave an excess of water in the syrup, both because it is then technically "adulterated" syrup,

and because thin syrup is subject to fermentation, which injures the quality. It is, therefore, a matter of importance to the syrup maker to know how to determine when his syrup has reached the proper density. There are four ways of testing this:—

1. Weighing. One imperial gallon of syrup of standard density weighs 13 lbs., 3 oz.

2. By the hydrometer (saccharometer). The density of standard maple syrup at room temperature (68° F.) is 1320 on a hydrometer showing specific gravity, or 35.6 degrees on the Baume instrument, the one commonly used in sugar work. In syrup, just below the boiling point, the Baume hydrometer reads 30.5 degrees.

3. By the thermometer. The boiling point of syrup of standard density is from 7 to 8 degrees Fahrenheit higher than that of soft water.

4. By the dipper test. Boiling syrup is ready to pour when, being poured from a dipper, it forms an "apron" on the edge of the dipper.

Of the sixty-five per cent. of solids in maple syrup, sixty-four or more consist of sugar—the same sugar that is obtained from the sugar cane and the sugar beet. When sugar, or sugar syrup is overheated, it forms "caramel," the substance which gives the dark colour and characteristic taste to taffy. Much of the colour of low grade maple syrup, and much of the strong flavour also, is due to caramel. Syrups of high quality, being caramel-free, are of light colour and mild but characteristic flavour, the true maple flavour, which the educated palate prefers to the old-fashioned mixture of maple and caramel. There are still a great many people who do not realize that light colour is a sign of good quality in maple syrup.

In addition to sugar and the small quantities of coloring and flavoring

substances, maple syrup and sugar contain a small proportion of salts, among which the malates of potash and lime appear to predominate. It is upon the presence of the non-sugar constituents, and especially upon the presence of the salts, that our methods of detecting adulteration in maple products depend.

The test most relied upon by the Laboratory of the Inland Revenue Department for the detection of adulteration in maple syrup is to add lead subacetate to the syrup, diluted with a certain amount of water. The precipitate produced is washed, dried and weighed. The official standard of purity requires that a maple syrup should yield at least 1.7 parts of lead precipitate per 100 parts of total solids. Other very reliable tests are based upon the amount and the character of the ash left when the syrup is burned. Granulated sugar leaves no ash. The Canadian standard requires that maple syrup should yield not less than 0.6 parts of ash per 100 parts dry matter, and not less than 0.12 per cent. of ash insoluble in water.

Maple sugar is allowed to have up to 10 per cent. of moisture, and is required to conform in other respects to the same standards as maple syrup.

Pure water is almost an absolute non-conductor of electricity. Sugar dissolved in water does not increase the conducting power, but salts do. Adulteration of maple syrup with syrup made from granulated sugar can therefore be detected by a measurement of the electrical conductivity. This method is my own discovery and my experience with it gives me confidence in its usefulness, not as a full substitute for older methods (for it will not detect all kinds of adulteration), but as a rapid test which serves to point out many cases of adulteration. The fol-

lowing statement will illustrate not only the usefulness of this very simple and rapid test but also the extent to which adulteration of maple products is practised to-day in Canada.

In 1911 and 1912 there were purchased in the Provinces of Saskatchewan, Alberta and British Columbia, and shipped to the Chemistry Department of Macdonald College, thirty-four samples of maple syrup. Thirty of these were sold, or, at any rate, labelled, as pure, two as "compound" syrups, *i.e.*, mixtures, and two as "maple flavour" syrups. The conductivity test indicated that fifteen of these thirty-four syrups were adulterated and three others had such low conductivity values as to arouse suspicion. Complete analysis confirmed the conclusion that the fifteen were adulterated and the three doubtful, but showed that two of those which had passed the conductivity test (neither of which was sold as pure) were also adulterated. Accordingly, seventeen of

the thirty-four syrups were certainly adulterated, and three others probably so. Or, leaving out of consideration the four samples sold as compound and as maple flavour syrups, both conductivity test and complete analysis showed that thirteen out of thirty were *certainly*, and three others *probably*, adulterated.

I have no doubt that this represents approximately the condition of affairs in the markets of the Western Provinces. About half the maple goods offered for sale there are adulterated. The Laboratory of the Inland Revenue Department has recently reported an inspection covering the whole Dominion. About thirty per cent. of the syrups and about forty per cent. of the sugars collected by the Government inspectors were found to be adulterated. And there is no doubt that the proportion of adulterated maple goods sold is greater in the West than in the East, where consumers are more familiar with the genuine materials.

IT PAYS.

It pays to wear a smiling face
And laugh our troubles down,
For all our little trials wait
Our laughter or our frown.

Beneath the magic of a smile
Our doubts will fade away,
As melts the frost in early spring
Beneath the sunny ray.

It pays to help a worry cause
By making it our own,
To give the current of our lives
A true and noble tone.

It pays to comfort heavy hearts
Oppressed with dull despair,
And leave in sorrow-darkened lives
A gleam of brightness there.

—Selected.

Fields of Work Open to Women with a Home Economics Training.



LIVE Schreiner, in her book "Woman and Labor," where referring to woman and the place she may take in the world, makes this statement: "We claim to-day all labor for our province !" To the woman of a quarter of a century ago this would have seemed not only quite out of the question, when considering the fields of labor then opened to women, but, practically, impossible. However, in the present day, so rapid having been the change in woman's economic position, we are quite willing to accept this statement as a fact. Furthermore, we have only to look about us in the professional, yes, and the commercial world also, to see women engaged in almost every phase of work, much of which was before carried on by men alone.

One of the chief factors in the bringing about of this condition has been the throwing open of the doors of our universities and colleges to women, so that they may there prepare and fit themselves for the many fields of labor, for, to quote the above mentioned writer again, "there must be in addition the training that fits us for Labor !"

In no field has woman found a wider scope for her capabilities or greater opportunity for work than that offered in the study of Home Economics. In its many branches a great variety of work may be found, and the reforms and betterment of conditions which have been brought about by those engaged in these different branches have proved, are proving and will prove the necessity for such work.

What are some of the positions open to a woman with a training in Home Economics ?

When Home Economics was first studied many took up the work and still do for the purpose of teaching it. But the positions in this particular phase of the work varied. In the schools of our larger and smaller cities we find branches of Home Economics taught, and the women who do this work have proved true missionaries, not only to the children with whom they have worked but to the mothers of the children and other members of the family, who have been benefited by the results of the knowledge learned in school. Again, many women specialize in certain subjects connected with the work and become instructors in the colleges and universities which give a Home Economics course. Others, in turn, teach in connection with work of the Y. W. C. A., and still others find their field in social service work—in helping and teaching these mothers who have not the opportunity nor means of gaining the knowledge in other ways. This to many proves a most fascinating work, and many women with such a training are entering it.

In our large institutions and residences of to-day, we find in many instances a "Professional Housekeeper" or "Institution Administrator" head of the work included in the department under her supervision. How much more easily and capably is she able to dispense her duties than the woman who does things by instinct, or after having learned in that hard School of Experience.

Medical Science, during the past few years, has been emphasizing more and more the value of the dietetic treatment of a disease, in certain cases, if not always, it being as important as the nursing. Here, once more, the woman with Home Economics training is in demand, and the value of the dietitian in a hospital is a widely known fact. She must possess a thorough knowledge of the chemistry of food, and the effect of certain food principles on certain diseases; every day finds her making out some food formula, or making up special diets. In addition to this she must instruct others, not only the actual care and preparation of food, but how to serve it in such a way as will tempt the most fickle appetite.

Still other channels have opened up in the work. In some large cities we find visiting housekeepers and dietitians. The former may be called in to the home and will be willing to advise the mistress on any work of the

household from management of money, set aside for household expenditures, to the cooking of a steak. The visiting dietitian's work, on the other hand, is a little different. You find her among the poor homes, going from one to another and showing the women, often foreigners, how to prepare their food and keep their houses. Work of this kind demands a woman of tact, sympathy and, further, the power to impart knowledge in a way that will be easy to understand, and readily accepted.

I might go on at length and speak of other work carried on by women for which a Home Economics course particularly fits them, but space will not allow. However, let me mention the possibilities in the "Tea-room," a most attractive field! Food inspectors, sanitary inspectors, supervisors or owners of laundries, these all are positions now held and carried on by women, and the success attendant upon them only proves that woman's part in the world of labor is large.

A E. H.

A SONG OF SUNSHINE.

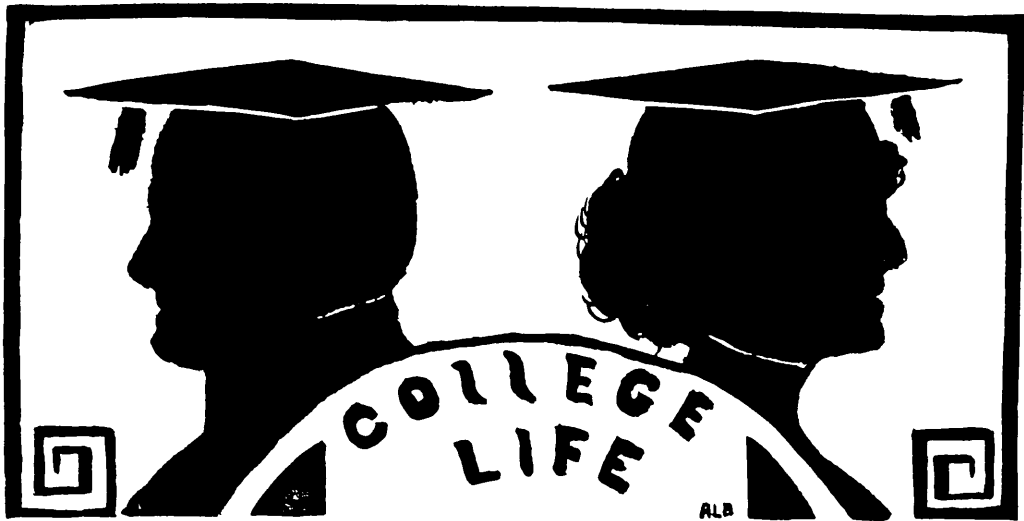
Sing a song o' sunshine,
Blue the winter's sky,
Snow melts for the crocus,
Spring comes by and by.
Sing a song o' sunshine,
For each passing day,
'Twill life's labors lighten,
Cheer earth's pilgrim way.

Sing a song o' sunshine,
Though to-day is drear,
Rainbows arch the heavens
When clouds disappear.
Sing a song o' sunshine
To the hearts you love—
Harmonies of heaven
From the heights above.

Sing a song o' sunshine,
To the world that needs
Just such inspiration
For its daily deeds.
Sing a song o' sunshine
As you work or wait,
Make the moments merry
While you make them great.

Sing a song o' sunshine,
Live a life of cheer;
Smile instead of frowning,
Never fret or fear;
Do your duty gaily,
Cast your cares aside—
There is sunshine somewhere—
Choose life's sunny side.

—Selected.



O. SCHAFHEITLIN, MISS BARDORF, MISS E. MACFARLANE, EDITORS.

MACDONALD COLLEGE LITERARY AND DEBATING SOCIETY.

The opening meeting of the above Society took place in the Assembly Hall on Monday evening, October 27th.

President Schafheitlin was in the chair and a very large audience was present to show their interest in the work of the Society, and to listen to the programme, the main item of which was the elocutionary contest, one section for the men, the other for the ladies.

After a beautiful prelude by Mr. Stanton, the President made his opening remarks and the meeting was proceeded with. In the ladies' contest, the following took part, the first three mentioned being the happy prize-winners:—1st, Miss T. B. Latimer; 2nd, Miss M. B. Travers; 3rd, Miss G. H. Monk, Miss Cornell, Miss M. D. Harris.

The selections given were of a high order and all were much enjoyed.

Before proceeding with the men's contest the audience was favoured with a very pleasing violin solo by Miss Portray.

In the men's contest there was good rivalry, and the awarding of the prizes was rather close. The gentlemen who won prizes and who took part are

as follows:—1st, R. Dougal; 2nd, R. C. Fiske; 3rd, H. M. Fiske, T. F. Ritchie, H. F. Williamson.

While the judges, Miss Torrance, Dean Laird and Dr. MacFarlane, were considering their decision, those present were privileged to hear an enjoyable vocal solo by Miss E. Findlay.

The routine business was then taken up and the honorary officers elected. Principal Harrison was elected Hon. President and Miss Fisher, Hon. Vice-President.

A second Vice-President from the Senior Household Science was elected. Miss de Villiers received this honour.

The judges then gave their decision and Miss McGill kindly presented the prizes to the fortunate recipients. The meeting closed with the singing of the National Anthem.

On Nov. 13, the Junior-Senior Inter-class debate was held. An account of this will be found elsewhere in the Magazine. Miss Biltcliffe ably presided and the audience was favoured by an instrumental duet by the Messrs. Williamson, to which Mr. Stanton played the accompaniment. The meeting was brought to a close by the singing of college songs, and the yells of the victorious class, the Juniors.

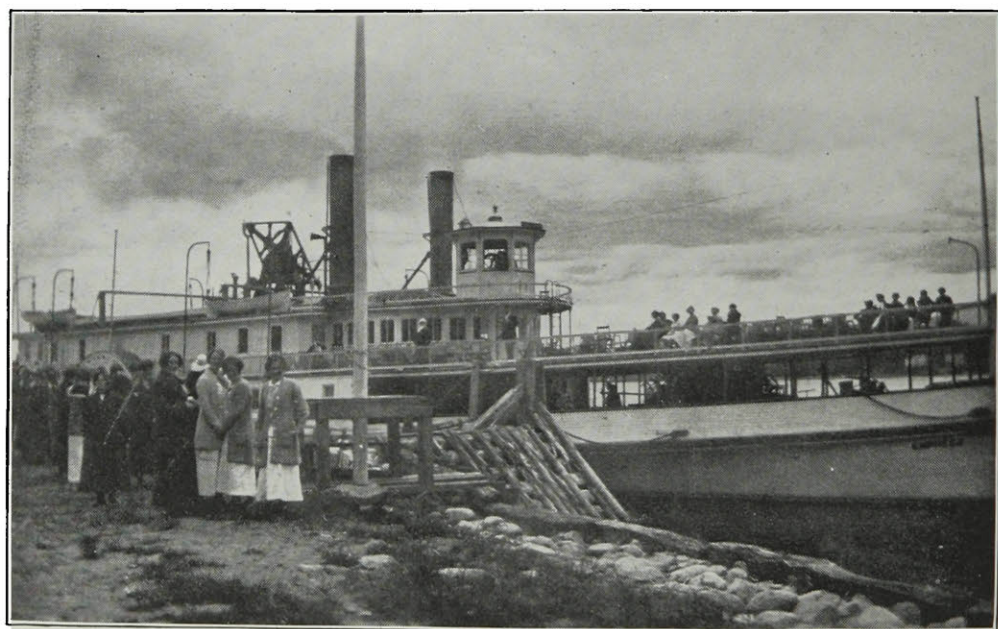
SENIOR VS. JUNIOR DEBATE.

On Thursday evening, Nov. 13, the first inter-class debate in the school of Agriculture took place in the Assembly hall. After Mr. Stanton had favored the audience with some very delightful pipe-organ selections, the vice-president, Miss M. Biltcliffe, called the debaters to the platform. Messrs. O. Schafheitlin and R. Huestis represented the seniors, while Messrs. W. Sadler and J. E. McOuat represented the junior year. The resolution for debate read: "That Labor Unions are Detrimental

Sir George Askwith, Adam Smith's "Wealth of Nations," and Mr. Lloyd George, Chancellor of the Exchequer, in the British House of Commons. He then directed the attention of the audience to the methods of labor unions, and their influence on the welfare of the nation, from the strict industrial and commercial point of view.

Mr. Schafheitlin, leader for the negative, followed with a clear and concise speech, in which he divided his subject under three main heads:—

I. The history of labor unions.



The "Empress" passing through the Locks at Ste. Anne.

to the National Welfare." The Juniors upheld the affirmative.

Mr. Sadler, in a clear and strong speech, touched on the history of labor unions; their evolution, their aims and objects; their method of attack in order to secure the end in view; and, lastly, their policy and future development, and endeavored to prove that they were preaching the gospel of the past. He then went on to show that the welfare of the nation would be in great danger if labor unions were in supremacy. This he proved by examples of sympathetic strikes, by the authorities,

II. The influence that they have had upon legislation improving labor conditions.

III. The philosophy of labor unions.

Under I he traced their history in England and their gradual rise in popularity through legislation and popular opinion, although at first bitterly opposed by everybody.

Under II he showed how they had influenced legislation, improving labor conditions, and made reference to the "Encyclopedia of Social Reform," by Blin, and also to Ibsen, in the book, "Human Quintessence."

Under III he showed what they stood for, and showed them to be democratic; he read their objects and proved them to be fair and just.

Mr. McOuat carried on the arguments for the affirmative by stating that general welfare must be considered and that labor unions must be judged as to their good or bad effects as a whole, by the influence exerted upon the greatest number of individuals either one way or the other.

By describing some of the most serious strikes of former years, he endeavoured to show that the evil effects upon the very members of the unions had been great and that, in some cases, a whole country was affected, and, in another, the supremacy of the government and the nation threatened. He also stated that since labor unions were, in the main, in search of wages, if they had been successful, more industrial workers would have joined their ranks. That this did not appear so was proved by the fact that only 20% in Great Britain and 30% in the United States belonged to their ranks, in spite of their long existence and fight for recognition; that these unions had not, in spite of all the trouble they had created, gained the end in view, as shown by the report of the Senate Committee of the U. S. A., in which it is stated that unorganized labor has made the biggest gains, badly organized the next, and best organized the least. Thus, labor unions, doing a great deal of evil to accomplish their ends, fail. Those workers who keep away from them, 70 % in the U. S. A., and who do not suffer from their influences, enjoy better wages, more independence and happiness. He concluded by summing up the case, in which he claimed he and his colleague had proven their point.

Mr. Huestis closed the arguments for the negative in a logical and well-arranged speech, in which he showed:

I. By statistics from Great Britain for ten years, and of United States for twenty years, that:

1. A comparatively small percentage of workers were, on the average, affected by strikes.

2. The total cost to the country was a negligible amount.

II. That unions were of benefit to employers, for:

1. Interference with dishonest practices in connection with employees protected the honest employer from the unfair competition of the unscrupulous one.

2. Employees' production was increased by the reduction of hours, as proved by testimony before United States National Commission.

III. That unions were of benefit to workingmen:—

1. To non-union men, because of potential fear that they would form or join unions; and because favorable legislation, brought about by unions, aided non-union, as well as union men.

2. To union men, financially, because of their system of insurance; and morally and intellectually, because of their democratic teaching and proclivities.

Mr. Sadler, in a spirited rebuttal, said that the negative claimed that labor unions had brought about the evolution for good as concerns the industrial class and the community. He said that the public opinion had done this, and that labor unions had just taken advantage of the prevailing public opinion and had not seated it. He said that they did not deny the original ideals of the union to have been good; what they did say was that the

leaders of the movement have been false to their early aims, and that to-day they are concerned with strikes for higher wages, and are making gigantic effort to obtain control of industry.

While the judges, Prof. Klinck, Prof. Bunting, and Mr. Clement, were in deliberation, the audience was favored with a selection by the Williamson Bros.; after which, the critic, Dr. MacFarlane, criticized the different speakers, and congratulated them on the able

although we were only entitled to send four. It was through the kindness of the McGill Y. M. C. A. that we were enabled to send the additional men.

The objects of the conference were to make the missionary propaganda large enough to attract the interests of all classes of college students, and to deepen the missionary work now carried on in the various institutions, of which 34 were represented by over 425 delegates.



Rev. Norman MacLeod, B.A., B.D.,

Pastor of the newly reorganized Union Church of Ste. Anne de Bellevue.

manner in which they had assimilated the facts. At last, the suspense was broken by the entrance of the judges, and Prof. Klinck, the chairman, gave the decision in favor of the affirmative.

G. C. H., '16.

THE KINGSTON CONFERENCE.

To the Fourth Missionary Conference of the Colleges of Ontario and Quebec, held in Kingston, Ont., our association sent fourteen representatives,

Our delegates boarded the International Limited, on Friday morning, Nov. 7th, and joined the McGill delegates, for whom a special car was provided.

We were met at the station in Kingston by Queen's students, who guided us to the University, where an excellent luncheon was provided. The different colleges gave their yells and songs as they took their places at table.

That afternoon and evening we heard several excellent addresses.

Saturday morning was given over to missionary addresses, and in the afternoon we saw the Intercollegiate Rugby match between Queens and 'Varsity. In the evening there was a great public meeting in Grant Hall, where we heard such speakers as Principal Gordon and Professor Jordan, of Queen's University.

Among the speakers, Sunday, were Dr. Murdock Mackenzie, of Honan, China, and Dr. Webster, of Syria, men of broad experience and large vision, whose inspiring addresses, along with meeting so many students, rendered attendance a great privilege.

The delegation from Macdonald was very representative, in that we had men from all the four years.

From the Senior year: G. G. Moe, V. B. Durling, Wm. Newton, and C. H. Hodge.

From the Junior year: E. M. Ricker, D. C. Hicks and W. R. Creed.

From Sophomore year: J. C. Moynan, C. Lyster, G. C. Hay, J. H. McOuatt and J. G. C. Fraser.

From Freshmen year: R. C. M. Fiske and H. W. Walsh.

J. G. C. F., '16.

A RESIDENT INSTRUCTOR IN ART.

Among the new teachers on the College Faculty is Miss W. Thompson, instructor in drawing and household art, and we take this opportunity of welcoming her to Macdonald.

Miss Thompson is an Englishwoman, and came to our fair Canada a little over a year ago. Miss Thompson was a student at the Liverpool City School of Art, and has had experience both in Canada and England. After completing her art course, she taught in Queen Mary High School, Liverpool. Miss Thompson comes to us from Havergal College, Winnipeg, so that she has already been initiated into the ways and customs of Canadian colleges.

We consider ourselves very fortunate in having such a thorough teacher as Miss Thompson, and from the work we have been doing with her we expect a very interesting year.

A. M. B.

MODEL CLASS RECEPTION.

It is the night of November 7, 1913. All the girls, especially those of the Model Class, are very much excited, and are eagerly waiting for the doors to open—for is it not the Model Class reception?

As we passed into the gymnasium, we were received by Miss McGill and Miss Tait, and were given our programmes. It was a pretty scene,—soft lights, with pink shades and a profusion of cosy corners and seats, comfortably fitted up with cushions.

The programme consisted of several games, one of which, "Find the Cat," was especially interesting. Miss England and Mr. Cowan won the prize for this game, while the booby prize was awarded to Miss Brooks and Mr. Russel. We also had a solo from Miss Armitage, a violin solo from Miss Portray, and a piano solo from Miss Rexford, all of which were immensely enjoyed.

The Freshmen made admirable waiters, and we hope they enjoyed their work as much as we enjoyed the refreshments.

The programme was brought to a close with college yells and songs. As we dispersed, several people were heard to remark that this was the best that had ever been.

A HALLOWE'EN MASQUERADE.

On Friday, Oct. 31, a very cosmopolitan crowd gathered in the girls' gymnasium, which was prettily decorated in Halloween style.

There were fairies, demure Dolly Vardens, stately ladies, dashing young

men (?) in white ducks, gypsy maids, little boys and girls, pierrettes, and even burly John Bull could be found in this gay crowd.

It was the girls' masquerade, and everybody entered heartily into the fun. Much time and thought had been given to costumes, and many of the girls had transformed themselves into polite young gallants for the occasion. Not a few of them had acquired the "masculine stride" to perfection. The unique feature of this dance was that the gentlemen were very reticent about removing their hats; in fact, it was *a la vogue* for them to keep their heads covered.

After the third dance the masks were taken off; and until then everyone was curious to know who everyone else was. Between the dances, while all were promenading or sitting in cosy corners, there was ample opportunity to notice the varied and original costumes. There were all sorts and conditions of men, from the Indian, in war-paint and feathers, to the officer of the navy. There were old-fashioned ladies, little girls and Spanish girls; but one and all seemed to be enjoying themselves to the full. Even the Macdonald Aggie of 19 (?) was having as lively a time as ever spent in hoeing the cabbage patch!

After the refreshments, the gentlemen had a grand march around the Gym. for the decision of the judges as to the best "make-up" for originality and completeness. Miss W. Thompson, of the Faculty, carried off the first prize, and Miss Helen Armitage, the second.

The dance was closed with all uniting in Auld Lang Syne, and as we went out, Miss McGill wished each one "Good-night."

The boys, of course, were not invited to this dance!

A. M. B.

LIFE IN RESIDENCE.

Although the classes in all three schools are larger this year than ever before, so far the Court of Honor and the Residence Committee have had less trouble than any year previous. This may be due to the freshmen not having yet "found themselves" (if this expression may be allowed), or to their naturally sweet dispositions.

So called "fussing" is this year limited to a very few cases, which may be regarded as chronic. Attempts along this line by freshmen and others have been seriously discouraged by a public spirited portion of the student body. Now, however much we deplore fussing as an occupation, and although we meet the girls in the dining room and at receptions, there are other occasions when fussing might not be altogether out of place, and students should remember that meeting persons of the opposite sex is part of their college training and that opportunities along this line should not be missed.

The season for indoor sports has opened, and we hope to have the women students present at our various games. We trust that the men will act as true hosts, and will show the ladies the respect due them on all such occasions.

So far the relations between the men and women students are of the best. That they may remain so, and that no further restraint may be put on the students in regard to these relations, we hope for a strict observance of all rules in this regard.

CLASS '15 LITERARY SOCIETY.

CLASS OFFICERS:

<i>Honorary President</i>	Prof. Barton
<i>Honorary Vice-President</i>	Mr. Clement
<i>President</i>	A. G. Taylor
<i>Vice-President</i>	F. Y. Presley
<i>Secretary-Treasurer</i>	H. B. Roy
<i>Committee</i>	{ H. D. Mitchell
	{ J. E. McQuat



Our Artist at the Hallowe'en Masquerade.

Class '15 Society has reorganized with the above officers. One regular meeting has been held, at which impromptu addresses of interest by several members of the Society were given.

Seeing that the Junior-Senior inter-class debate of November 13 was close at hand the next regular meeting was not held as it was felt that all energies should be directed towards making the debate a success.

The Society hopes hereafter to hold regular fortnightly meetings on Wednesday evening, in which it is hoped all members of the year will have an opportunity of debating before the close of the session.

CLASS '17 LITERARY SOCIETY.

On November 3rd, Class '17 met for their first regular meeting after the organization of their "Lit." A spirited debate was held on a subject which concerned the Freshmen very closely; and on which some of them, at least, felt very strongly, judging from their remarks. The subject chosen was: "Resolved, that the Inclusion of Manual Labor in the First Year Curriculum is a Success." This was a subject on which all could speak, having had experience, and while Messrs. E. C. Hatch, D. Gruer, E. Hodgins, H. H. Walsh, C. Loomis and E. Viane tried to convince the audience that, while the manual labor was beneficial to them (the audience), in general, it had been so to themselves (the speakers) in particular, but Messrs. W. E. N. Hodgins, R. N. Hodgins, W. H. Elliott, A. O. Morrisette, W. G. Dunsmore and H. A. Tull maintained that this was not so, and, in the opinion of the judges, the latter put up the stronger argument. The decision was greeted with hearty applause. In this debate the President and speakers

had the privilege of addressing the audience in an entirely unprecedented manner in class debates in the School of Agriculture at this college, namely: "Ladies and Gentlemen," this being the first time that an "Aggie" class had been graced by the presence of students of the gentler sex.

The second class debate was held on Nov. 17th, the subject being: "Resolved: That the United States Should Control the Panama Canal." The affirmative was upheld by Messrs. A. R. Milne, C. R. Bradford and D. S. Hume, and the negative by Messrs. T. G. R. Rankin, G. W. Gillson, and H. A. Tull. The speakers on the negative side covered themselves with glory by winning this debate. During the time the judges were absent from the room considering their decision, Mr. A. O. Morrisette rendered a very acceptable impromptu speech, the feature most applauded being "A Philosophy on Life."

Both debates were a decided success in both quality of speeches and size of audience. The number of speakers on a side was somewhat large, but, owing to the large number of fellows in the class, this was necessary to give everyone a chance to speak. Some of the fellows have the making of good speakers in them, and we are looking forward to some interesting debates in the future.

THE HOME ECONOMICS CLUB.

The first meeting of the Home Economics Club took place on Tuesday evening, Nov. 4th. Miss Yuill, the president of the club, presided and opened the meeting with a brief address on the purpose for which the club was formed.

A delightful pianoforte solo, by Miss Hazel Rexford, preceded the principal

feature of the evening which was a debate—Resolved: That Woman Should Have Equal Suffrage. The affirmative, supported by Miss Carlyle and Miss Rourke, won the debate in spite of the able manner in which Miss Cox and Miss Macfarlane upheld the negative.

While the judges, Miss Torrence, Miss Ayre and Mrs. Crowell, were making their decision, Miss E. Findlay sang charmingly.

After Miss Torrence had given the judges' decision and kindly criticized the debate, the meeting closed with the singing of God Save the King.

B. M. M.

MACDONALD FROM THE TOWER.

"Earth hath not anything more fair:
Dull would he be of soul who could pass by
A sight so touching in its majesty."

The remarkable beauty of the college buildings and surroundings is very frequently mentioned by visitors. The harmony between roof and wall, between building and building, and between the landscape and the buildings, together with the air of solidarity given by the massive and somewhat plain design, are the two outstanding features.

Familiarity with one's surroundings may tend to make them appear commonplace. Should any such feeling ever possess a Macdonald student, there are two ways in which a renewed appreciation of the beauty of his Alma Mater can be obtained. One is by a visit to the grimy city and the other is by obtaining a view of the College from a distance. Although the grounds are most spacious, a wide perspective is

needed to show off the buildings to their best advantage.

It is from some such vantage point as that offered by the tower that the real magnificence of the institution dawns upon one. Stretching in wide expanse at right and left, joined by the silver thread of the Ottawa, lie the two lakes, St. Louis and Two Mountains; away in the distant south the purple Adirondacks stand out in bold relief against the sky; on the north the grey hills of Oka are crowned with the spires of the Monastery and chapel on Mount Calvary; twenty miles to the east, Mount Royal rises above the encircling halo of smoke sent up from a thousand busy factories; on the west, the level plains of Vaudreuil carry the eye onward till in the distance sky meets the earth.

Spread out at one's feet there appears an institution that is without a peer of its kind. A gentle slope leads down to the banks of the Ottawa, veiled by a hedge of noble elms. Here and there, yet in most convenient order, are distributed the red-roofed buildings so dear to the hearts of any who have ever sought shelter beneath them. Slate-grey roads wind in and out among groups of shrubbery, with sweeping curves, linking all together. There is Macdonald in her fulness!

No one who sees Macdonald thus, in all the beauty of her natural setting and in her entirety, can fail to pay homage to the philanthropist whose munificence, coupled with the genius of the master mind, whose conception Macdonald was, made possible such an institution.

Class Presidents.



SCHOOL OF AGRICULTURE.

H. J. M. Fiske, '14, for the second time, presides over his classmates in their deliberations. Fiske has won the esteem of every student and ably discharges the duties of the Students' Council, of which he is president. He has a solution for every problem.

* * *

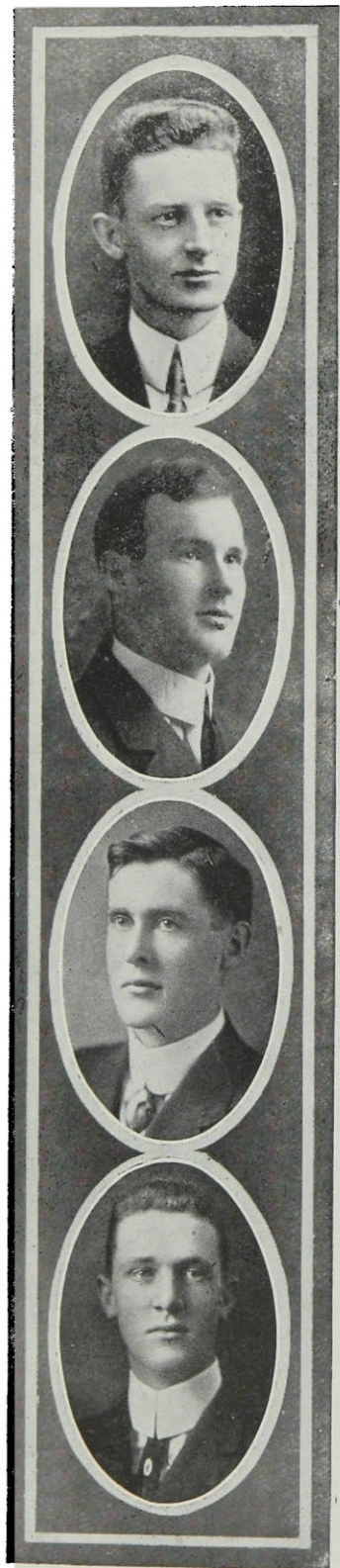
E. M. Ricker, '15. "Rick," too, is president of his class for a second term. A strong personality and cautious good judgment characterize the Junior president.

* * *

J. C. Moynan, president of '16, is as happy as he looks in the picture. He surpasses all the other men in his year in stature, and will make good in this important office.

* * *

R. C. M. Fiske, president of '17, is another of that famous tribe. Good sense and deliberation on his part won for him the presidency, and the Freshmen are to be congratulated on their choice.



SCHOOL OF HOUSEHOLD SCIENCE

AND

SCHOOL FOR TEACHERS.

Miss G. Cox, the popular president of the Senior Housekeepers, was born in Charlottetown, Prince Edward Island. She was educated at Mount Allison Ladies' College, Sackville, N.B., but in the fall of 1912 decided to take the Housekeeper Course at Macdonald.

* * *

Miss Olive Tait was this year elected president of the Model Class in the School for Teachers. Miss Tait's charming personality and good nature have won for her the love and esteem of all her classmates, both of this year and last. We wish her all possible success as leader of one of the largest Model Classes ever held at Macdonald.

* * *

Miss Alexina T. Carlyle received her early training at Morrisburg Collegiate and then entered Queen's, where she received the degree of Bachelor of Arts in 1912. During her life at Queen's Miss Carlyle took a keen interest in all college activities, and ably filled many important offices. We congratulate the Homemakers on their choice of a President.

* * *

Miss Myrtle Lay, the president of the Elementary Class, has also the good-will and affection of all. A sunny smile radiates her cheerful nature. Miss Lay bids fair to make this a star year for the Elements, and we can do no more than offer her our co-operation and help.

* * *

Miss Ethel Wathen, the president of the Junior Housekeepers, comes from New Brunswick, having received her early education at the Harcourt High School. She graduated from the Provincial Normal School of New Brunswick in 1907, and after having taught several years in her native province came to Montreal, where she has lived for the past three years.





INTERNATIONAL STOCK JUDGING.

FOR the students of Macdonald College, and for the students of other agricultural colleges throughout Canada and the United States, Saturday, November 29th, will be a day of intense excitement and of international importance. The judging pavilion at the International Live Stock Show in Chicago will be the scene of activity, and on the efficient work of each of the five men composing each represented college team rests the keynote of the cheer which will rise higher and higher, and be electrically prolonged over the intervening space to that college whose team has won the day, and whose fellow students will catch up the yell and cause their Alma Mater's halls to resound again and again with "We have won the trophy at Chicago." To those who have not experienced the thrill of simultaneous excitement, caused by such a telegram, a description is very indifferent. But since we won two years ago, in the first appearance of an M.A.C. team in the conflict, we cannot help being enthusias-

tic over the fact that we are again sending a team. We are justly proud of our team and wish them every success. Our team is picked from a very few men, while competing colleges have classes of fifties or hundreds to draw from.

OPTION EXTENSION WORK.

This year, as in former years, the fourth year students in their respective options are having the opportunity of getting some outside information aside from their usual lectures. In the Animal Husbandry Option the men have had several outside trips, getting acquainted with more and different stock than is possible to find at the College. In the Horticultural Option, trips have been made to Horticultural Shows, as the one lately held in Toronto, and to large estates with commercial greenhouses, and also those of vegetable growers. The Cerealists expect to attend some of the seed fairs, such as those held at Ottawa and Quebec. This outside extension work, arranged for by the professors, helps the students in getting a broader view and first-hand information of actual conditions.

O.A.C. AT M.A.C.

This year we expect the O. A. C. athletes and debaters to be our guests, and we are looking forward to the meet, which is now under consideration. Great excitement is experienced and college spirit runs high, at the same time bringing the two colleges closer together, and in a very pleasing way. Here's to the best of luck for the year.

EXCHANGES.

We wish to acknowledge, under Exchanges, the following: *The McGill Daily*, *The University of Ottawa Review*, *The King's College Record*, *The Academy Bulletin*, *Acta Victoriana*, *The Alumnus*, *The Cornell Countryman*.

No other magazines have been received as yet, and our own MAGAZINE has not been acknowledged so far by any exchanges, except *The McGill Daily*, which we thank for its favorable criticism.

In the *U. of O. Review*, for November, comment is made, under "Exchanges," on the nature of some of the articles which in general appear in the pages of their exchanges.

"First and foremost, and what is the purpose of this paragraph, it seems regrettable that the field of fiction is being so sadly neglected by College writers." In making such a statement, it is found necessary to include our own publication in this category of delinquents, as efforts along the line of fiction have been few and far between in our MAGAZINE.

"But it may be said that an effort is being made this year to persuade the frequenters of our sanctum to take a reasonable departure from the classroom essay, and give more scope to their imaginative forces in the endeavor to contribute something, be it ever so

meagre, in the nature of an attempt at wholesome fiction.

But many of our sister institutions are even more neglectful than we have been. And in saying this the blame is not with the editors entirely, but with the number of students who are in the habit of contributing to the literary organ of their Alma Mater. The little goddess of fiction seems to have been denied any recognition whatever by the ambitious essayists of some of our contemporaries. They, too, should change their methods. College magazines fail to accomplish their full purpose unless efforts are extended to encourage not one but every department of literary endeavor."

The editors heartily agree with the foregoing paragraph, and trust that the good seed will fall on fruitful minds at Macdonald.

The Academy Bulletin is a good number, and of interest to us, especially as we now have as associate students some whose pictures appear in its graduating groups.

In *The King's College Record* good advice is given to Freshmen, which many in upper years might think on and profit by, such as: "Step out into college life and realize each one that it is your duty never to be absent from student meetings." "Don't let half-a-dozen men run the college, or your class, or whatever it may be, but do your share, and more, if necessary. Thus you will find yourself well-tuned for the world, and proud of the time put in at Macdonald."

"Let knowledge grow from more to more,

But more of reverence in us dwell;
That mind and soul, according well,
May make one music as before,
But vaster."

This, Macdonald will do for you, if you do your part.

In the *University of Ottawa Review* for November there appears also a fine article on "Some Weak Spots in Modern Education"; "Money-worship is manifestly on the decline"; "The things most worth while to-day are to be found in plain living and high thinking"; "Brains, integrity, and force of character, are the qualities education worthy

of the name should develop"; "How best to educate the masses is a problem that involves the future of the nation, the vitality of the race,"; "Tennyson's 'Man Worth While' had the following traits: self-reverence, self-knowledge, self-control — these three alone lead life to sovereign power." Emerson has said, "Give to the world something worth while, and men will wear a pathway to your door."

THE SMILING MAN.

Everything to him seems bright,
He fills his comrades with delight,
His pleasant greeting makes you glad,
When everything to you seems sad,
He'll be a friend to everyone,
Until his course in life is run,
Though it be many, many miles,—
The man who smiles.

—Selected from *U. of O. Review*.

"The world is so full of a number of
things,
I'm sure we should all be as happy as
Kings !" — *Selected*.

Faculty Items.



At the November meeting of the Macdonald College Club the Rev. John MacDougall, of Spencerville, Ontario, delivered an address on "Rural Problems in Canada." The speaker has made this subject peculiarly his own, and as a result his treatment of it bore the impress of a familiarity born of a first-hand acquaintance.

After dealing with the depletion of the rural population in Canada, the speaker pointed out the resulting strain on all the institutions of rural society and the moral dangers incident to the situation. The economic causes contributing to the decline were noted, and the social causes for unrest in the open country were clearly set forth. The problem, in the judgment of the speaker was not primarily an economic or social one, but was essentially one of appreciation of life, and as such called for the

co-operation of all the constructive forces in the country for the development and enrichment of rural life.

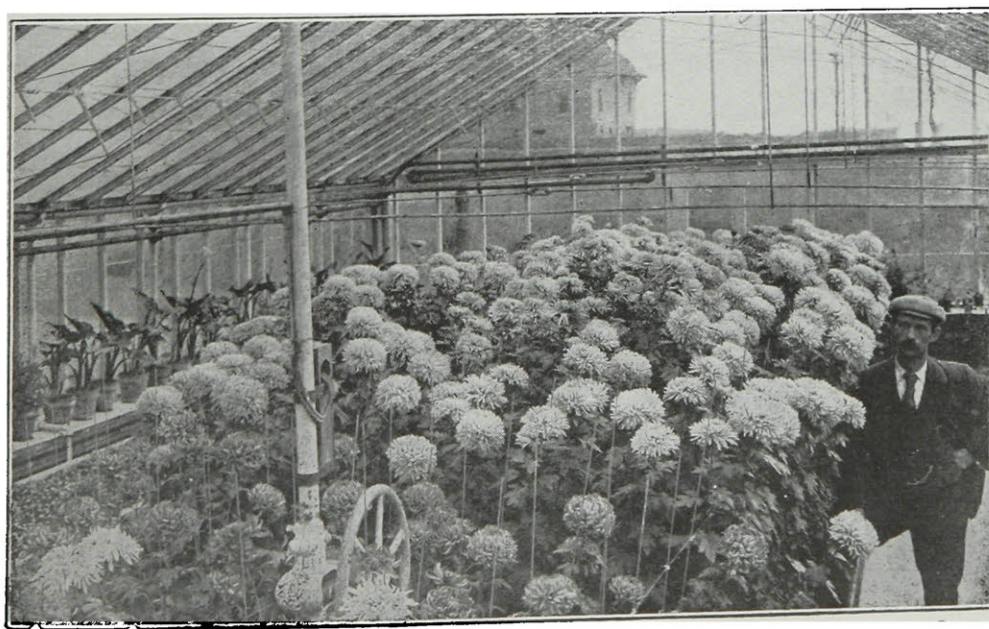
The address, which was an admirably balanced presentation of the forces now at work in the open country, was listened to with unusual interest.

A vocal solo by Miss E. Rollins, a piano composition by Miss A. Hill, and a violin solo by Mr. G. A. Stanton comprised the musical part of the programme. The musical numbers, which were all by Grieg, were well rendered and appreciatively received.

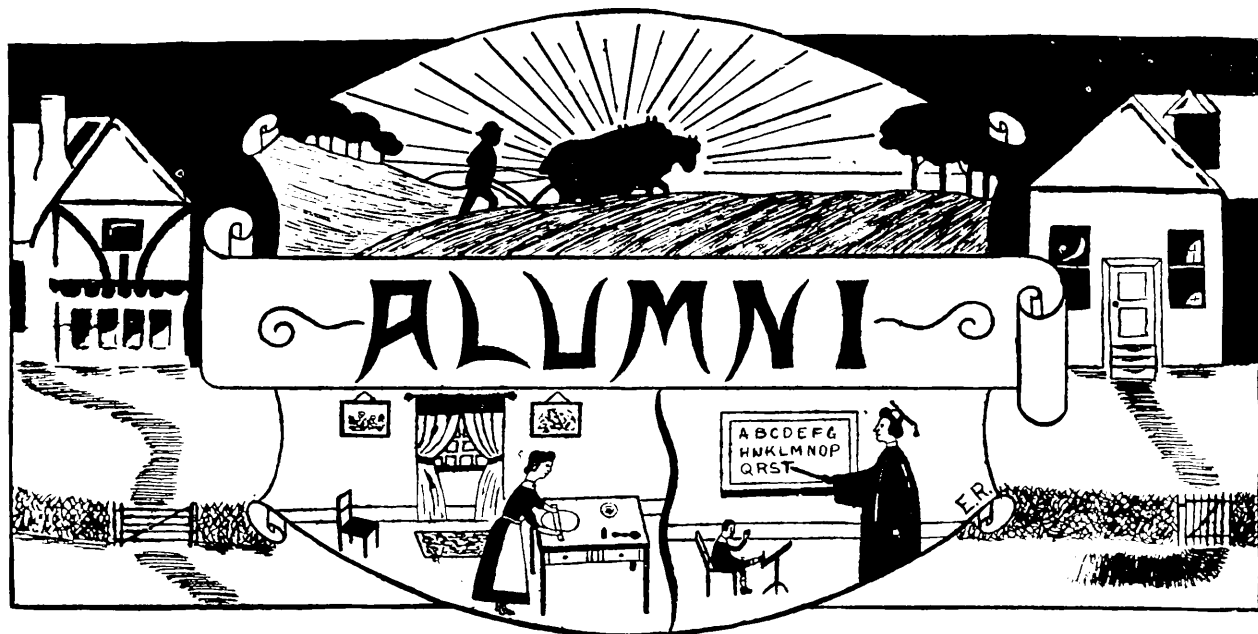
The first meeting of the Bachelors' Club for the present academic year was held on the evening of Nov. 3rd.

"The Glacial Period and a Theory" was the subject of an interesting and suggestive address by Professor Kneeland. At the next meeting of the Club Professor Bunting will speak on "The Horticultural Interests of Canada."

L. S. K.



Mr. Walker and his 'Mums.



R. HUSK, MISS DE VILLIERS, MISS O'CONNOR, EDITORS.

SCHOOL OF AGRICULTURE.

John R. Macfarlane, '14, is farming at his home, Bristol, Que. We expect him back next year to complete his course.

We were much pleased to have a visit from R. S. Grisdale, '15. He is farming at Boyersbourg, Que.

G. F. Creaghan, '15, is employed by the Government, inspecting railway bridges.

B. W. Brown, '14, is carrying on quite extensive farming operations at his home, Smiths' Mills, Que.

Andrew A. Allen, '15, is farming at Aubry, Que.

A. R. Montgomery, '14, is fox-farming at New Richmond, Que.

Walter E. Sutton, '15, is at home on the farm, Barnston, Que.

George R. Young, '14, is working for the Canadian Northern. His headquarters are near Edmonton, Alberta.

A. D. Baker, is reporter for the *Sherbrooke Daily Record*, Sherbrooke, Que.

GEORGE R. Mooney, '14, is working at home, Inverness, Que.

WM. D. McCredie, '15, is farming at his home, Bristol, Pontiac Co., Que.

R. S. Baker, '14, is employed as draughtsman by the Canadian Rand Drill Co., Sherbrooke, Que.

C. O. Edwards, '15, is stock-farming at Coaticook, Que. He still believes in Jerseys.

R. F. Williams, '14, is raising steers and bananas at Kew Park, Betheltown, Jamaica.

SCHOOL FOR TEACHERS.

Among the Macdonald graduates of Class '13 teaching at Edward VII School are the Misses M. Goodchild, H. Robinson, S. Rorke, B. Milford, and M. Buzzell.

Misses E. Johnston, H. Buzzell, and D. Buzzell, of Class '13, are teaching in the Riverside School.

Miss Mayme Morison, Class '13, is teaching in the Dufferin School, Montreal.

Miss "Billy" Palmer, Class '13, is teaching in the Sherbrooke High School.

Miss Eva Anderson, Elem. Class '14, is teaching in the Strathcona Academy, Outremont.

Miss Pauline Le Baron, Class '13, is teaching in the Earl Gray School, Montreal.

Miss Jean Nesbitt and Miss Amy Chadwick, Class '13, are teaching in Delorimier School, Montreal.

Miss Marjory Hyslop, Elem. Class '14, is teaching in an Elementary School near Athelstan.

Miss Estelle Le Mesurier is teaching in the Quebec High School. Quebec.

Miss Olive Lay is teaching in the Belmont School, Montreal.

Miss Mary Boyd, Elem. Class '14, has charge of an Elementary School in St. Cyr, P.Q.

Miss Mabel Morrison and Miss Edith Bockus, both graduates of the Model Class '13, are teaching in Earl Gray School, Montreal.

Miss Hazel Ouimet, Class '13, is at her home in Howick, Que.

Miss Annie Stewart, Elem. Class '14, is teaching in East Farnham.

Miss Rhoda Marsh is teaching in the Berthelet School, Montreal.

Miss Ada Steele, graduate of Elem. Class '13, is now teaching in Rockburn.

The Misses W. Banford, L. Roy, A. Marshall, and E. Anderson, all graduates of Model Class '13, are teaching in Mount Royal School, Montreal.

Miss Myrtle MacPherson, Elem. Class '14, is teaching at Dee Side, near Metapedia.

Miss Pansy Wyatt is at her home in Sherbrooke.

Miss Clara Tyrrell, Elem. Class '14, is teaching at Lake Megantic. Que.

Miss Elaine Millward, Miss Kate Porter and Miss Edna Robson are teaching in the Sarah Maxwell School, Montreal.

Miss Nellie Holmes, Elem. Class '14, is teaching at Way's Mills, Que.

Miss Edith Gorham is teaching in Riverside School, Montreal.

Miss Jean Miller, Elem. '14, is teaching in an Elementary School in South Durham.

SCHOOL OF HOUSEHOLD SCIENCE.

Miss Margaret Andrews, '12-'13, has taken a position as supervisor of the King's Daughters' residence, in Ottawa.

Miss Belle MacLeod, '13, is teaching out West, in the Kootenay district.

Miss Winona Thompson, of the spring Short Course, is back again at Macdonald, and is taking the Home-makers' Course.

Miss Beryl Reynolds, '13, and Miss Marguerite Robertson, '13, both of Montreal, are taking special lectures at McGill, this year.

Miss Mary Cowling, '13, is spending the winter at her home in Moncton, N.B., and is putting into practise the knowledge gained at Macdonald.

It was with much pleasure that we heard of the marriage of Miss Elizabeth Slack, '13, and Mr. Ben Richardson, B.S.A., '13.

Macdonald College Agricultural Alumni Association.

Mr. F. S. Grisdale, B.S.A., who, until recently, has been engaged on the staff of the *Norwest Farmer*, has left that position to take up a more onerous one at Olds, Alta., where he has been appointed agronomist at the Government Agricultural School.

G. E. O'Brien, B.S.A., has discovered himself to be an agricultural journalist, and is making good his claim in connection with a position on the staff of the Chronicle Publishing Co., of Halifax. If in need of a scheme for making money, apply to him at the above address.

From a glance at the programmes for the winter courses in agriculture in Prince Edward Island, under the auspices of the Provincial Government, we notice that live stock, work under the direction of W. J. Reid, constitutes the greater part of the course.

A note from J. R. N. Macfarlane reveals to us the fact that "Micky" is engaged with a landscape designer in Boston, Massachusetts. We look for Boston to become noted for its aestheticism.

George C. Halliday, B.S.A., can nowhere be seen to better advantage than at his home on the farm at Sawyerville, Que. Here he applies himself with much zeal in the pursuit of his chosen calling, viz., farming. His friends would have no difficulty in recognizing the genial George, in spite of a great change which has come over his countenance.

W. H. Gibson, B.S.A., well known as the president of Class '13, has lately accepted the position of Macdonald College Demonstrator at Richmond, Que. Previously to that, he was making the show circuit in charge of the famous Ness herd of Ayrshires.

W. A. Middleton, B.S.A., has again taken up work for the Thomsen Chemical Co., of Baltimore, Md., after spending the summer in the employ of the B. C. Dept. of Agriculture.

Messrs. Sweet, Lods, Parent, Buck, Grindley, Wood, Newton and Dreher make flying visits to Macdonald at intervals.

K. MacBean, B.S.A., has secured the position of assistant on the Experimental Farm, at Indian Head, Sask. Here his perseverance and willingness will doubtless accomplish much for the good of agriculture.

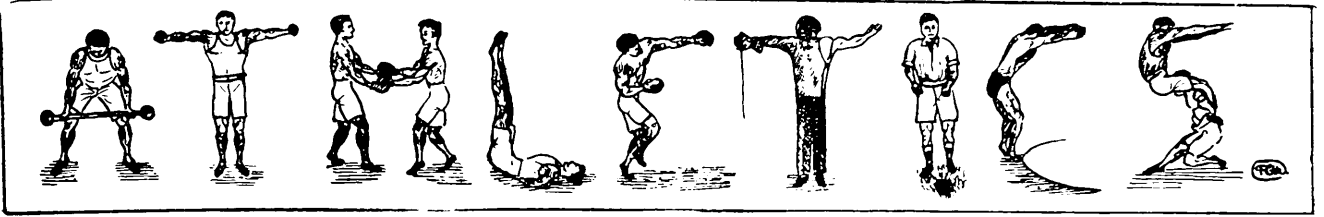
L. D. McClintock, B.S.A., is making good his reputation at Cowansville, Que., as a college demonstrator. We have no doubt that Mac's agreeable manner and logical way of presenting his arguments will cause the farmers of that section to do something.

A. E. Raymond, B.S.A., is located at Cookshire as one of the College demonstrators. This he finds a good place with many golden opportunities to do good work. We feel sure that "Ned" will rise to these occasions and meet them successfully.

WEDDING BELLS.

Mr. and Mrs. Irving Slack announce the marriage of their daughter, Elizabeth, to Mr. B. B. Richardson, on Wednesday, the twenty-ninth of October, nineteen hundred and thirteen, Ayers Cliff, Que.

Richardson is the first of the B.S.A.'s of '13 to take on himself the state of matrimony. We can assure him that he and his bride have the best wishes of the class of 1913 for future success and happiness.



L. R. JONES, MISS M. B. TRAVERS, EDITORS.

FIELD DAY.

GREAT excitement and uncertainty had been aroused during the few days preceding Thursday, October 23rd, over the probable outcome of our Annual Field Day. And now, as we glance back to give an account of the deeds performed on that day, we are reminded of the great admiration we had for those men who took part in the various events.

Hard systematic training had been practiced by some of the contestants since the opening of college, and this was much evidenced in the competitions. Thanksgiving vacation coming, as it did, only a few days before the final day broke into the training of these men, to some extent, but very little difference was shown in the results. The weather for the preliminary events was cloudy, and rain threatened us both days.

The preliminaries for the shorter races, along with the two mile event, and the final heat in the 100 yards dash, were run off on the Tuesday and Wednesday preceding, in order to give plenty of time for the finals on Thursday. The two-mile race had several contestants, and was watched with great interest by the spectators. The start was slow, but the finish was speedy for a distance run. The winners were: Grove White, '15, first, with Skinner, '17, second, and Muir, '14, third. The time was twelve minutes, nine seconds. Owing to the fact that two of our best men, Dougall, '14, and White, '15, had been selected

for the University track team to compete in the Intercollegiate Track Meet, held at Kingston, Thursday, October 23rd, it was decided by the Sports Day Committee to hold the one hundred yards dash on Wednesday, instead of Thursday. By this arrangement, Dougall, '14, was given the chance of competing in the one hundred yards event, so as to offset the points won by White, '15, the previous day. This gave both the Seniors and Juniors equal chances of winning out with their remaining men.

The entries in the preliminaries were numerous, and need not be mentioned here. The first two men to cross the line in each heat were considered eligible for the finals.

At last we have a cinder track started, and although it was only one hundred yards long, it made a marked difference in our running, both in long distance runs and in the sprints. A quarter-mile track had been staked out in such a manner that the cinder track was used both in the starts and finishes of the distance events.

Thursday was rather cloudy, and there was a cold west wind blowing, which chilled the men, but we considered ourselves lucky that it did not rain. The afternoon had been proclaimed a holiday for the students in agriculture, and a half-holiday for the teachers and the domestic science students. The men students gathered on the Campus at 1.30, but it was not until 3.00 that the other students and their friends were able to join us. The two-

hundred-and-twenty yards hurdles was the first event, and from then on everybody was intensely interested in the different events.

The following is a list of the events and their winners:—

- 100 yards.—1, Dougall; 2, Fraser; 3, Evans. Time: 11 secs.
- 220 yards.—1, Fraser; 2, Durling; 3, Gordon. Time, $25\frac{2}{5}$ secs.
- 440 yards.—1, Skinner; 2, Jacks; 3, Schafheitlin. Time, $59\frac{1}{5}$ secs.
- 880 yards.—1, Skinner; 2, Muir; 3, Schafheitlin. Time, 2 min. $19\frac{1}{5}$ secs.
- One mile.—1, Muir; 2, Bradford; 3, Skinner. Time, 5 min. $16\frac{2}{5}$ secs.
- Hurdles.—1, Bailey; 2, Wm. Hay; 3, Muir. Time, 21 secs.
- High Jump.—1, Evans; 2, Jacks; 3, Newton. Height, 5 ft. $1\frac{1}{4}$ in.
- Putting shot.—1, Baily; 2, Ricker; 3, Evans. Distance, 33 ft. $1\frac{1}{2}$ in.
- Broad Jump.—1, Baily; 2, Fraser; 3, Evans. Distance, 19 ft. $3\frac{1}{2}$ in.
- Pole Vault.—1, Hyndman; 2, Bradford; 3, Newton. Height, 7 ft. 8 in.
- Hop, step and jump.—1, Huestis; 2, Schafheitlin; 3, Evans. Distance, 38 ft. 9 in.

The interclass relay race was won easily by the Sophomore team, with the Seniors second, the Juniors third, and the Freshmen last. The Sophomore team was: Gordon, Jacks, Hyndman, and Fraser.

Noticeable among the events were the one hundred yards, won by Dougall; the half-mile by Skinner; the two-mile by White; the shot put and broad jump by Bailey, and the hop-step-jump by Huestis. These events were keenly contested and in most cases resulted in the lowering of last year's records.

The number of points won by the different years and individuals are as follows: Freshmen, 38 points; Seniors 30 points; Sophomores, 23 points; and Juniors, 17 points. Bailey, '17, champion, 15 points, 3 firsts; Skinner, '17, 14 points, two firsts, 1 second and 1 third.

The value of positions were: 5 points for first, 3 points for second, and 1 for third.

The Freshmen deserve to be congratulated on the manner in which they carried away the honors on Sports Day. It is the first time since 1909 that the Freshmen have won the track meet, and their men, Bailey and Skinner, must be given a word of commendation for their excellent work.

The officials for the day were:—Referee, Dr. Harrison; Judge, Prof. Klinck; Judges in events, Messrs. Clement and Hammond; Starter, Prof. Barton; Timekeepers, Messrs. Summerby and Ness; Scorer, F. L. Drayton; Announcer, L. C. McOuat.

Everything taken into consideration, this, the sixth Annual Field Day, was a big success. Undoubtedly, some were disappointed that Dougall and White were not here to compete. They certainly would have made things more interesting and the competition more keen, but we all admired the magnanimous spirit of their classes in foregoing their chances of winning by letting these men go to compete in the intercollegiate events at Kingston. Good class spirit was shown throughout the meet, but things would have been made far more exciting, and perhaps the competition a little closer if the classes had organized sooner, and laid more definite plans for the competition in the different events; the coaching of the competitors in these events; and the organized cheering during the whole meet.

PRESENTATION OF PRIZES.

The presentation of medals and prizes won by the competitors on Field Day, took place the same evening in the Assembly Hall. The president of the Athletic Association, Mr. Geo. Muir, '14, officiated, and opened the meeting with a short address concerning the success of the meet and the good sportsmanship displayed by both winners and losers in the events. In closing, he congratulated the Freshmen on the way in which they had carried away the honors, and expressed the hope that they would keep up the good work during the year.

A brief programme followed, consisting of a vocal solo by Miss Findley, accompanied by Mr. Stanton, and an excellent violin solo by Mr. Schafheitlin, also accompanied by Mr. Stanton. Both of these solos were highly appreciated by the audience and heartily encored. The prizes, consisting of silver medals for those who won first places; bronze medals for those winning second; and the various cups, were then presented by Miss Macmillan, assisted by Mr. F. M. Clement. The list of prizes was as follows:—

Two mile.—1, White, '15; 2, Skinner, '15; 3, Muir, '14.
 One mile.—1, Muir, '14; 2, Bradford, '17; 3, Skinner, '17.
 Half-mile.—1, Skinner, '17; 2, Muir, '14; 3, Schafhietlin, '14.
 440 yards.—1, Skinner, '17; 2, Jacks, '16; 3, Schafheitlin, '14.
 220 yards.—1, Fraser, '16; 2, Durling, '14; 3, Gordon, '16.
 100 yards.—1, Dougall, '14; 2, Fraser, '16; 3, Evans, '15.
 Hurdles.—1, Bailey, '17; 2, Wm. Hay, '17; 3, Muir, '14.

High Jump.—1, Evans, '15; 2, Jacks, '16; 3, Newton, '14.

Broad Jump.—1, Bailey, '17; 2, Fraser, '16; 3, Evans, '15.

Pole Vault.—1, Hyndman, '16; 2, Bradford, '17; Newton, '14.

Putting Shot.—1, Bailey, '17; 2, Rick-er, '15; Evans, '15.

Hop-Step-Jump.—1, Huestis, '14; 2, Schafhietlin, '14; Evans, '15.

The "Dr. Robertson" Cup, for the year leading in points, went to the Freshmen, who had 38 points to the Seniors' 30, Sophomores' 23, and Jun-iors' 17.

Individual Championship Cup, pre-sented by Dr. Harrison.—Bailey, '17, with three firsts, making a total of fifteen points.

The Second Aggregate of Points' Cup, presented by Dr. Sinclair.—Skinner, '17, with fourteen, made up of two firsts, one second and one third.

Inter-Year Relay. — 1, Sophomores, winning the Dr. Peterson Cup.

Dr. Harrison, Honorary President of the Association, then favored the audience with a short speech, in which he congratulated all the competitors on the excellent showing made. He touched on the benefits of Athletics to students in general, and especially to us here at Macdonald. In closing, he promised that work on the cinder track would be continued so that next year we could look forward to at least two-hundred and twenty yards of good cinder track, on which to make records worthy of our College.

Throughout the evening the hall resounded with class yells and college songs, and it was not until after the evening had closed with the singing of "God Save the King" that we realized that Sports Day was over for another year.

ASSOCIATION FOOTBALL.

The football season has been a dull one for us this year. Only one game has been played this month. Little or no practising has been done by the team this fall because of a loss of interest in soccer among the fellows. This loss of interest has been due to the fact that, so far, we have been unable to get regular games with other teams. The league in which we have been in former years has been broken up, and the teams disorganized. And, in spite of the efforts of our captain, O. L. Jacks, we have not, as yet, been able to enter another league.

The only game this month was played on the 15th, with a team representing The United Shoe Machinery Co., of Montreal, and resulted in a victory for the visitors by a score of 4-2. The play was fast throughout the game, and in spite of the facts that we needed practice badly and were a little weak in the defense, we made things interesting for the visiting team.

Since no definite schedule has been laid down this season, the number of games to be played before soccer is dropped for the year is uncertain. In any case, however, we may be sure of at least one more game, and that with our old rivals, The Farm Team.

INDOOR SPORTS.

Great interest is being shown by the different classes in their preparation for the indoor inter-class competition this winter, and the race for the indoor championship promises to be even keener and more exciting than was the outdoor competition.

The schedule for inter-class games is as follows:—

November 12th:
Seniors vs. Sophomores Baseball
November 19th:
Junior vs. Freshmen Baseball

November 26th:
Senior vs. Sophomores Basketball
December 3rd:
Juniors vs. Freshmen Basketball
January 14:
Seniors vs. Freshmen Baseball
January 21st:
Juniors vs. Sophomores Basketball
January 28th:
Juniors vs. Sophomores Baseball
February 4th:
Seniors vs. Freshmen Basketball
February 11th:
Seniors vs. Juniors Baseball
February 18:
Seniors vs. Juniors Basketball
February 25th:
Sophomores vs. Freshmen Baseball
March 4th:
Sophomores vs. Freshmen . . . Basketball
All these games are to be played at
6.45 p.m.

As yet, only one of these games has been played—the baseball match between the Juniors and Freshmen. This game resulted in an easy victory for the Juniors by a score of 34-4. The line-ups for the opposing classes were:

Juniors	vs.	Freshmen:
Ricker 1 b		Roy
Roy c		Cooper.
Evans p		Curley.
Westbrook . . . s		Hand.
McCormick . r . f		Maskery.
Presley s . s		Russel.
Taylor l . f		Bradford.
Boyce c . f		Hodgins.
Mitchell . . . 3 b		Gilson.

Neither the college baseball nor basketball teams have their schedules for the season fully settled as yet. Our basketball captain, A. E. Hyndman, '16, is at present negotiating with league officials to get our team into the

Inter-Provincial Y.M.C.A. League. If he succeeds, the series of this league in which our team will be put will also include teams representing the North Branch, the McGill, and the Railroad Y.M.C.A.'s. Undoubtedly, we shall have the pleasure of witnessing some very exciting games with these different teams, especially since some of them were our rivals last year.

Both our baseball and basketball teams are badly handicapped, in that they were unable to get experienced coaches. Last year, Messrs. Summerby and Ness kindly gave us some of their time; but this year, because of extra work, these men were unable as yet to take up the coaching of our teams. This has left the whole work of coaching to the captains, and so far, things are rather in an unsettled state. It is hoped that after the Christmas holidays Mr. Ness will again be able to take up work with the basketball team. This, however, still leaves the baseball team without a coach. Perhaps the best way to settle matters is to appoint a manager from among the students. The man chosen should have a definite knowledge of the game; be popular among the fellows; and should be willing to spend some of his time helping to train a team capable of maintaining

the high name which our College now has in that branch of indoor sport.

One game of basketball has been played this season with a team from the St. Patrick's Y.M.C.A., Montreal. In this game we were nicely beaten by a score of 38-30.

The line-ups of the teams were:—

Macdonald	vs.	St. Patricks.
Hyndman	..forward...	Donaldson.
Russel	...forward...	Thompson.
Evanscenter....	Platt.
Schafheitlin	defense...	Bick.
Roydefense...	Singleton.
Skinnerspare....	Wilcox.
Referee	Hyndman.

Throughout the match the play was fast and clean, but both sides, and our men especially, showed much lack of team practice. The game had a decidedly good effect on the men, in that it has settled them down to good hard practicing for their next match.

By the time this article appears before the readers of the Magazine, many of the difficulties which are now confronting us will be things of the past. But, in the meantime, it is hoped that every effort will be made to support our teams and their captains, so that we may send out teams which will be a credit to the College.

ICON.

Anciently, men pictured saints,
And kept the long-flamed candles
Burning at the shrines away.

So memory thy picture paints;
And at thy feet the heart-flame,
Leaping, ever turns the night to day.

—Mildred Ockert.

Girls' Athletics.



THE busy season of Girls' Athletics has begun.

This year we hope to make the Athletics a greater success than ever before, and we have made a good beginning, for our girls have already distinguished themselves on the tennis courts of R. V. C.

On October 25th the following girls left the College to try their luck against the ever-victorious R. V. C. girls :—R. Tenny, R. Hacker, A. Angstrom, N. Angstrom, I. Dettmers, H. Rexford.

On their arrival at Montreal the girls were taken to the grounds of the Royal Victoria College. They were well received, and then began the games.

Three setts of doubles and three setts of singles were played.

There was great excitement among the spectators at the equality of the opposing teams and the closeness of the games. Both sides worked hard to win, but the Macdonald girls came off victorious in most of the setts, winning all the doubles and one of the singles.

At noon the R. V. C. girls entertained at dinner in the College, and before they left in the afternoon they were served with afternoon tea. The R. V. C. girls proved themselves to be true sports, and all went merry until our girls left on the 6.15 train for St. Anne's.

That we were proud of our girls was evidenced by the cheering when they arrived at the College.

BASKET BALL.

On Saturday, November 1st, in the gymnasium of the Women's Residence, the Models of '13 played the Elements of '13.

To the second year girls the scene was familiar, and therefore interesting ; but to the newcomers it was probably more so, being the first game they had seen played here.

The teams were drawn up as follows ;

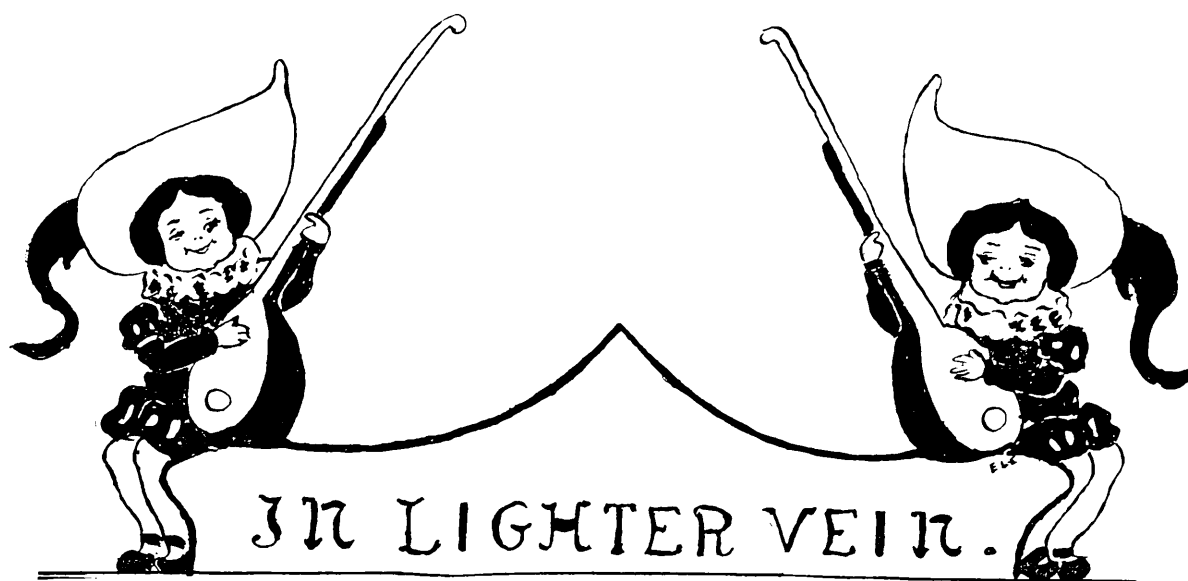
Models '13		Elements '13
B. Reichling	} Home	M. Biltcliffe.
G. Whiting..		V. O. Tait.
D. Slack.. . .		Centre. W. Cross.
M. Couper.. .	} Wings.	H. O'Connor.
M. Cameron.		A. Moore.
A. Pratt.. . .	} Defen.	E. Dudgeon.
J. Nesbitt.. .		R. Tenny.

The Elements defeated the Models with a score of 13 to 7 ; but the Models, not having practised since they left their Alma Mater, did remarkably well.

These games created a good deal of interest, as can be imagined ; and we all think that our Macdonald girls deserve much credit for their successes.

M. B. T.

Let us never forget that the cultivation of the earth is the most important labor of man. Unstable is the future that has lost its taste for agriculture. If there is one lesson of history that is unmistakable, it is that the national strength lies very near the soil.—*Daniel Webster.*



CHAS. RUSSELL, MISS AYLEN, MISS ALLEN, EDITORS.

PRUNES AND PRISMS.

"Every knock a boost."

* * *

Drayton's favorite book—"Alice in England."

* * *

Question: "When is a belle?"

Answer: (Huntley, G.): "When she Is a bel."

* * *

Satan finds mischief still for idle hands to do. Hand, be careful what you "Pickup." Note.—This applies also to Mr. Richardson.

* * *

Teddy must look to her laurels—Reid is making a noble effort.

* * *

Model teachers still love toys and Edythe P . . . delights in "Jacks."

* * *

If ever there is a fire at Macdonald, the Aggies must not count on Dickson to rescue the perishing, as he has his own "Cross" to carry.

* * *

Mr. Frazer: "The Red Algae are Marine!"

Jenks, Jr., from Ottawa; "Green, Sir?"

FOR 'EAVENS' SAKE.

Hand found Miss S. an "iceberg," but it took the power of "'Eavens" to melt her.

* * *

Poor Miss Bowls, etc. She has the sympathy of the whole College. Everywhere she goes—in the alcove, on the campus,—everywhere—she's "Cough-in," "Coughin."

* * *

On the occasion of the Dean's accompanying the Seniors in to town, this chorus was sung by the teachers left behind.

To the tune of "My wife's gone to the country."

"Our Dean's gone to the city,"

Hurray! Hurray!

He's done his best, he needs a rest,
That's why he went away.

He's taken the Seniors with him,

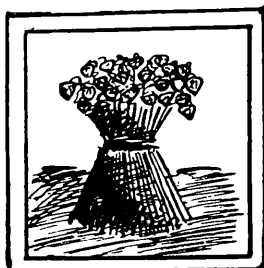
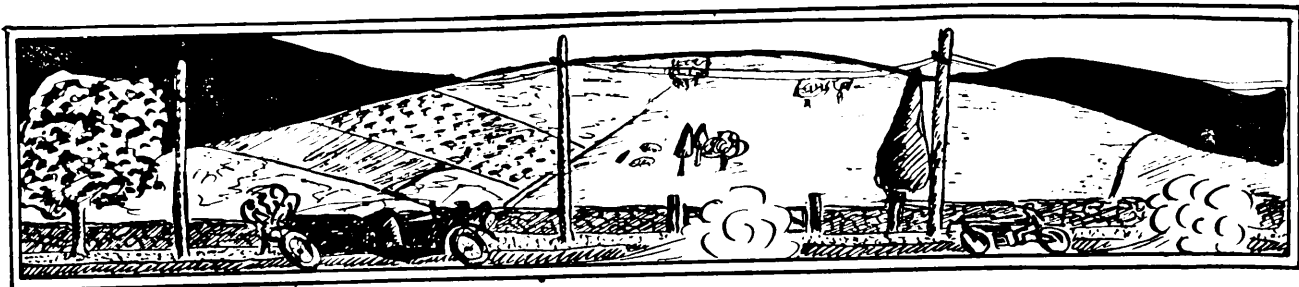
Hurray! Hurray!

We don't care what becomes of us
Since they've gone away.

* * *

Aggie (in restaurant): "Where are those eggs I ordered fifteen minutes ago?"

Waiter: "Sorry, sir, they have been mislaid."



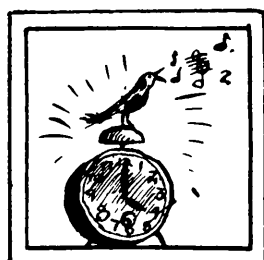
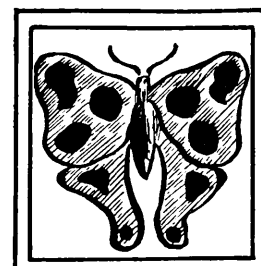
I would flee from the city's rule and law,
From its form and fashion cut loose,
And go where the strawberry stands on its straw,
And the gooseberry grows on its goose.

Oh, let me drink from a moss-grown pump
That was hewn from a pumpkin tree.
Eat mush and milk from a rural stump,
(From form and fashion free).

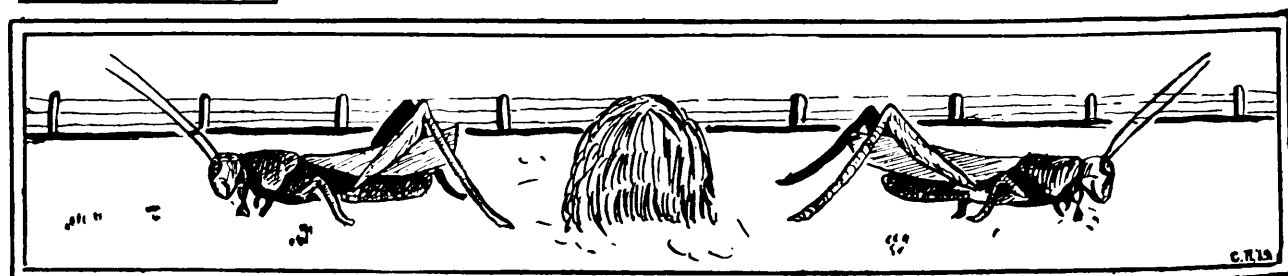


New gathered mush from the mushroom vine,
And milk from the milkweed sweet,
With luscious pineapple from the pine
(Such food as the gods might eat).

And then to the whitewashed dairy I'd turn,
Where the dairymaid hastening hies,
Her ruddy and golden butter to churn
From the milk of her butterflies.



And I'll rise at morn with the early bird,
To the fragrant farmyard pass,
As the farmer turns his beautiful herd
Of grasshoppers out to grass.



THE SUN . . . DUE NORTH (?)

Take Professor K's word for it. He knows what he is talking about. When this phenomom of nature occurs you are out driving with . . . ! and are not responsible for seeing "sons" out of place.

* * *

Many of the Seniors are bubbling over with mingled (?) feelings of delight and joy! They feel that they are unduly honored. Undeservedly so, to say the least. The Dean has tendered them his kindest invitation to spend their "week-end" at Macdonald College, P.Q.

* * *

Frazer's not happy Tilly sees her.

* * *

Miss B. (The lady who "Bakes" rolls, etc.) ought always to be given Geography to teach as she has made such a thorough study of the "Mapp."

* * *

Prof. Klinck: "What do you know about Ceres?"

Freshman: "Do you mean the World's Series?"

* * *

Mr. Hammond: "Where is the rest of the class?"

Member of same: "They'll be here in a minute. They are at a Y.M.C.A. meeting.

Mr. Hammond: "Are you sure it's not a Y.W.C.A. meeting?
(Glancing round the class). "Oh, no! It couldn't be. Gordon is here."

* * *

J. Spore (at business wicket): "I think you must have been meant for a bird, Mr. De—rs."

Mr. D.: "Why?"

J. S.: "Because whenever I see you, you have a bill.

AFTER CHURCH.

George B. "I just graviTait."
Fiske. "I must agiTait."

* * *

Prof. Klinck (mentioning the fact that Indians, through lack of salt, preserved meat, fish and oysters, by hanging in a smoky fire) :

Evans: "Did you say that the Indians smoked oysters, sir?"

* * *

Mr. J. : "Miss C, I love to hear you talk."

Miss C. (delighted): "Oh, why, Mr. J.?"

Mr. J.: "Because it drowns the clatter of the plates."

* * *

Blessed, indeed, is she whose term in "The Apartment" is o'er, for now she will thrive.

* * *

Dr. H. (to Miss S.): "Would you mind running up the window?"

Miss S. (with a puzzled look): "Yes, Dr. H."

* * *

Take heed all ye inexperienced,—listen to the words of a sage adviser!
"Thou shalt not YAWN AUDIBLY!"

* * *

Miss C.: "If any of my friends were coming, I should advise them to take the Agricultural Course, as then they have no responsibility."

Mr. J.: "How would you like to feed the pigs?"

Miss C.: "Well, there is this about it, anyway. You people are at home with the pigs, and we are not with the children."

Dr. W., to Macdonald students: "I have sold these pills for 25 years and have never heard a word of complaint. Now, what does that prove?"

Bright Student: "That dead men tell no tales."

* * *

How do the short course thrive? They toil not, neither do they spin, yet even the Homemakers, with *all* their hard work do not grouch around like one of these.

HOW NEWS TRAVELS.

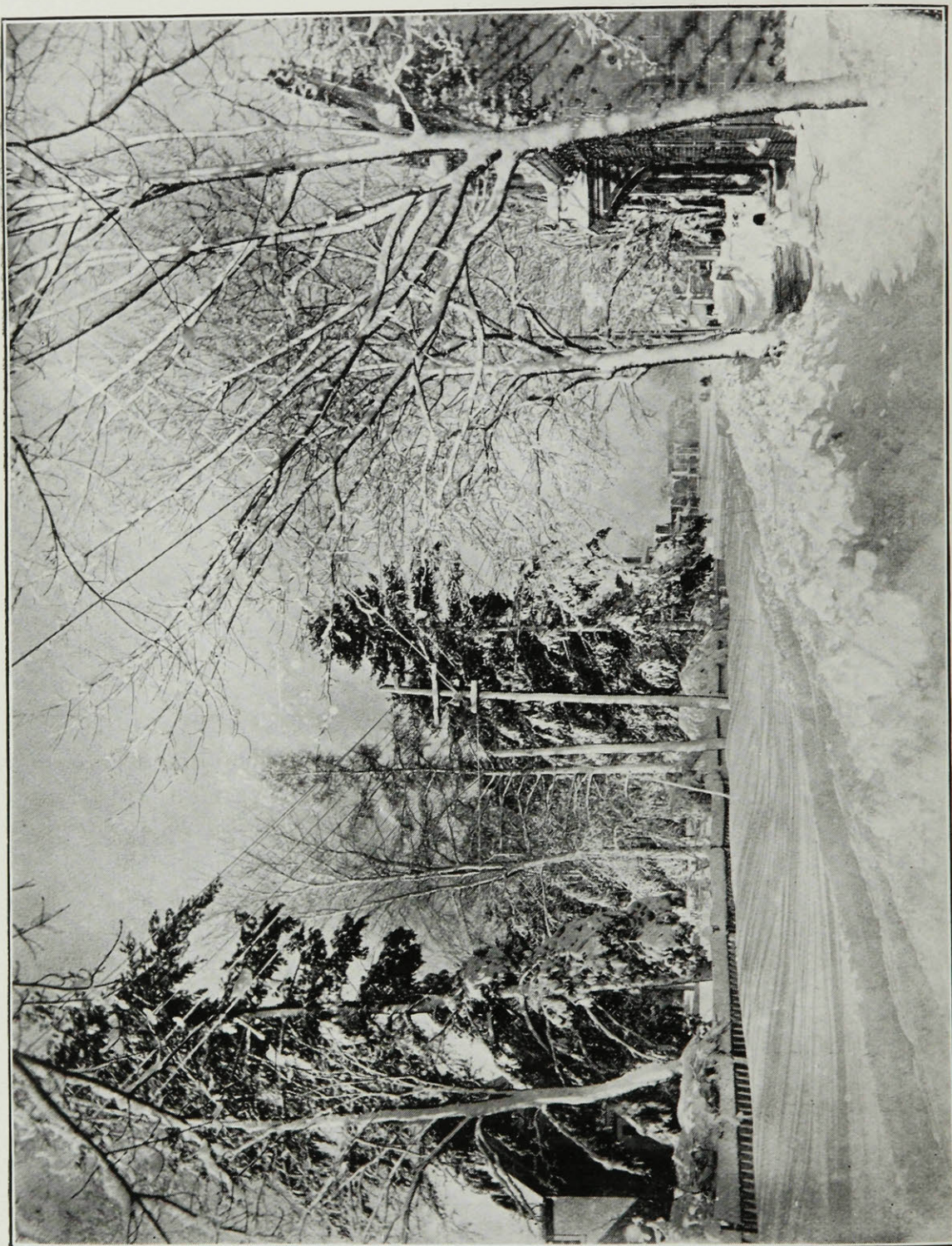
"Lottie tells me that you told her not to tell the secret that I told you not to tell anyone."

"Oh, isn't she mean! I told her not to tell you that I told it to her."

"Yes, I told her that I wouldn't tell you if she told me, so please don't tell her that I told you what she told me that you told her not to tell me."



THE END



After the Storm.

Agricultural Education in the Rural Schools of this Province.

Suggestions as to its Improvement by our Inspectors.



REFERENCE has been made in our Editorial Column to the contributions contained in these pages.

These letters are by men of experience, who are in close touch with the rural situation, and more comment on their opinions by us would be superfluous. They were forwarded in answer to a letter sent to the Inspectors, asking for an expression of their opinion as to the present condition of Agricultural Instruction and some method of improving its present status. Those who have answered have given us replies well worthy of publication. In our next issue we hope to publish the replies of other Inspectors and thus maintain interest in this important phase of Education.

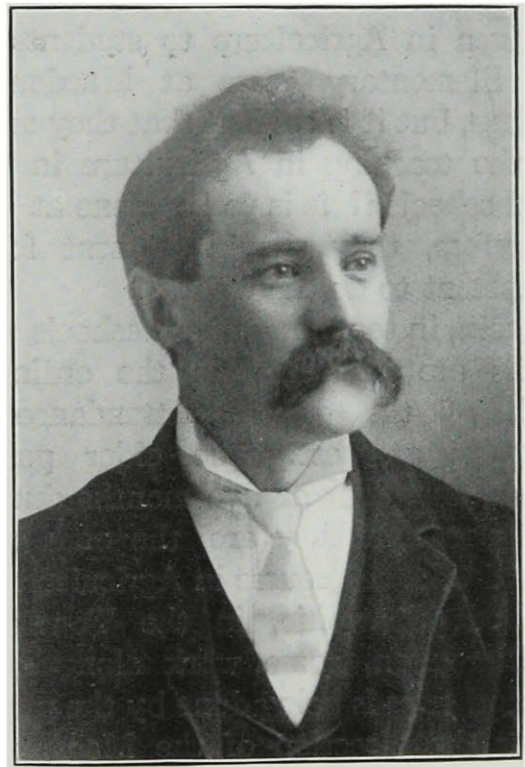
TO THE EDITOR:—

Replying to your inquiry concerning Agricultural Instruction in our rural schools, I regret to inform you that the subject is not taught in the schools of my inspectorate.

Nearly one-half of the teachers in this district were without diplomas during the past year, and of those who held certificates few if any were qualified to teach it.

The first requisite no doubt would be a supply of enthusiastic teachers competent to give instruction on the subject. Until such are forthcoming it seems to me that a good initiative would

be to devise a scheme whereby a lecturer from Macdonald College could spend at least one week in each of the localities where there is a Model School or an Academy, and give a short course of lectures in these schools to the pupils. The course should be open to any of the



INSP. O. F. McCUTCHEON.

pupils of the elementary schools of the municipality who desired to attend. Public meetings might be held on certain evenings during the week.

Much might be done in this way towards establishing a closer connection between the school and the home.

Inspector O. F. McCUTCHEON.

TO THE EDITOR :—

Your letter of the 7th with regard to Agricultural Instruction in our Rural Schools has been received and its contents noted.

I regret to report that the subject receives very little attention in the schools of this inspectorate. One and the chief reason for this is that the majority of teachers have never taken up the subject at school, and therefore do not feel competent to teach it. They lack both the knowledge and enthusiasm necessary to make a success in dealing with the subject. Bear in mind that about seventy per cent. of our teachers have no diplomas.

I do not know how much instruction is given in Agriculture to students in the Elementary Class at Macdonald College, but it is evident that they must do the teaching in Agriculture in the rural schools if it is to be done at all. Therefore, they should be sent forth competent to do the work,

Again, in too many of our schools the pupils are backward in the ordinary work of the course. Attendance is irregular at best. The older pupils attend only four or five months during the year, and they are the ones who should take the course in Agriculture.

About Shawville, in the Township of Clarendon, some work along agricultural lines is being done by the pupils under the direction of the Macdonald College Representative, Mr. King. A school exhibit was held last fall in connection with the annual fair of Pontiac County. The exhibits made by the pupils were highly creditable. The schools are preparing to do a great deal more for next exhibition.

For many reasons, especially in an agricultural country like the Province of Quebec, it is a great pity that the study of botany has been almost en-

tirely dropped in our Protestant Schools. The elementary school is the place where the study of plant life should begin, but it should not end there.

Perhaps the School Inspectors will be able to do more in helping along the study of Agriculture than they have done in the past. They are all, I think, farmers by birth and early training, and their work brings them into close contact with farmers of all kinds. By keeping in closer contact with Macdonald College, both in the departments of education and agriculture, the inspectors will be able to get new ideas and inspirations for their work.

Insp. H. A. HONEYMAN.

□ □ □

TO THE EDITOR :—

In reply to your question regarding the value of agricultural instruction in the schools of our province, I beg to state that I consider the question one of great importance to our rural population. To be effective, however, I am of opinion that the subject requires to be introduced in a more practical manner than has been attempted heretofore.

In the schools of this inspectorate the subject has been studied chiefly from the prescribed text book, very few teachers being prepared to give even lessons in nature-study or school-gardening. In some respects these feeble attempts have rather discredited the subject of agriculture in the rural districts. Yet there is a general desire among the farmers that their children should learn more of the practical side of their own profession without foregoing the benefits of the general course of study. This desire could best be fulfilled by the adoption in the elementary schools of an "*agricultural arithmetic*" whereby

the pupils could learn to calculate many of the practical problems of farm life.

In its wider scope, however, I can see only one solution of the problem, namely, the consolidation of many of the smaller rural schools into larger ones and then the delivery of a series of lessons in each of these larger schools by a number of competent instructors of such standing as our district representatives. In many sections of the province it would be possible for such an instructor to devote an hour a day in each of two or three schools for a period of two weeks at a time. During such periods of two weeks his instruction should form a part of the regular school course for which credit ought to be given to the pupils in the regular way, either by an examination and a card of credit by the instructor himself or by the Educational Department at the close of the school year. If a staff of three such men, graduates of an agricultural college, were to spend eight months of the school year in such work, according to a prearranged time table, they would visit many schools, cover an immense territory, and impart a vast amount of useful information.

Let us remember, however, that the key to success in such work rests in the consolidation of our smaller schools.

Inspector J. W. McOUAT.

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TO THE EDITOR :—

A much neglected subject is Agriculture. If the subject is to remain on the course of study, it would seem that some further provision should be made for efficient instruction. Prescribed work in a suitable text-book would certainly tend to improve the quality of instruction given in this subject.

Inspector W. O. ROTHNEY.

While considering the question of rural knowledge and agricultural education, we could not possibly act more wisely in endeavouring to bring the matter before our readers than to publish the editorial printed below. To say that it is by the Editor of the Weekly Witness, guarantees the soundness and logic of its expression. We publish it with a sense of gratitude for the clear way in which he handled the question under consideration.

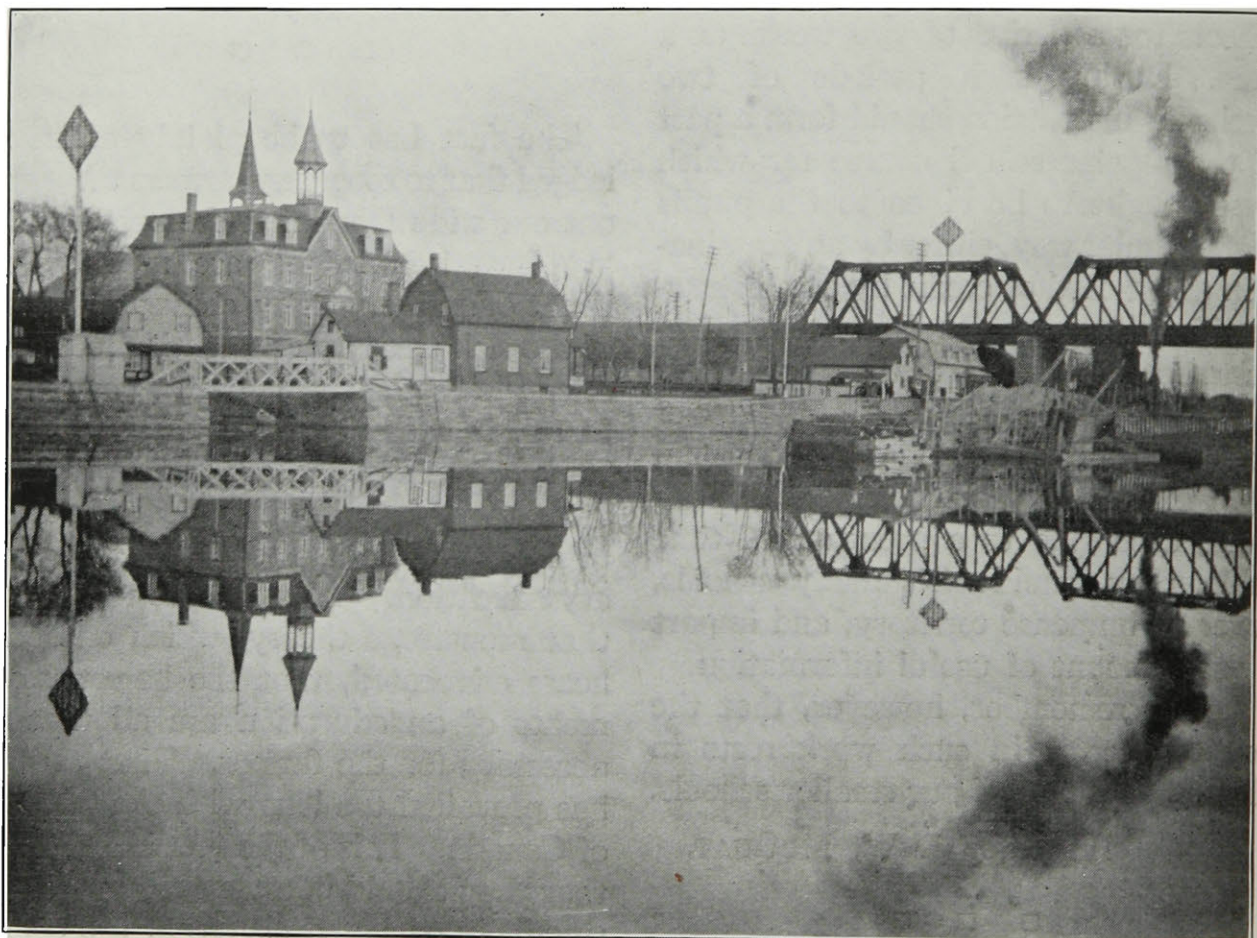
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The fact has to be plainly acknowledged that to too many farmers throughout our wide Dominion the very words "modern knowledge" are meaningless if not offensive. They convey no sense of the rich treasury of scientific fact and scientific method which is at command for their material and moral benefit. Too many, however, are unable to take advantage of modern knowledge in their business from lack of sufficient elementary education. They are the victims of that monstrous theory, which one still hears advocated, that the barest rudiments of an education are all that is necessary for the farmer. That theory has prevailed too long with the farmers of Canada. It is of the first importance that they should become one of the distinctively educated classes of the country—men, and women too, of modern knowledge and clear thought.

The rural school, as it too often is, accords a very unfair treatment to the future farmer, who has a right to as broad a culture as any other member of society, and is in a better position to use and enjoy it than most. The mission of the rural school, indeed, is only at its commencement in our national history. The rural school must truly become an educational and social centre

and the means of furthering the appreciation of modern agriculture. It has done wonders for other countries in recent years—Denmark, Scotland, Ireland—and it can work wonders for us. What the rural school can become in any community is very largely in the hands of the majority in that community. It can be just as good or as poor as the people locally desire it to be. The

school laws in most of the provinces are largely based on the home rule principle. The people should be very jealous of this liberty and vindicate their right to self-government by a worthy and progressive administration. The progressive people in each community, if they can agree with one another, have the making of the schools in their own hands.



A Good Reflection. Is this Picture Right Side up?

A Few Hours at Eton College.

By MISS N. McMILLAN.



AN invitation to visit Eton College "for tea and to see races on the river" was accepted with anticipations of pleasure that were realized on a perfect summer day last July. Windsor Castle crowns the hill at the foot of which lies Eton-on-the-Thames. After visiting the castle we left it by the "back way" down the three-hundred-

same material, about eight feet high and closed by gates. The satin grass, careful walks, fragrant flowers, clinging vines, dignified shrubbery, and majestic trees speak in a language whose terms are more of generations than of seasons.

Eton College was founded in 1440 by King Henry VI for the purpose of providing education of a benevolent sort for youths. Still seventy "collegers," as



Eton College.

and-sixty-five stone steps that lead to the village street. Across the Windsor Bridge a few minutes, walk brought us to the home of our host, one of the house-masters of the college. These English houses standing in their own grounds present an appearance of refined establishments. The buildings are often of stone, and the wall of enclosure of the

these students are called, live in Eton College. They wear black gowns and eat in a handsome dining-hall lately re-constructed. But the original foundation has been superseded. The mass of the students, nine hundred and sixty, are called "Oppidians." They live in the homes of the house-masters, the master and his wife taking the parental

responsibilities. There is an assistant master to help with study. One of the boys, chosen by the master, represents the students in matters of discipline. The study and dining-room are common rooms, and breakfast and tea are served individually in rooms. One bath-room was sufficient in the house so interestingly shown to us.

While we were having tea the conversation of an elderly gentleman was delightful. For forty years he had been a house-master. It was evident that his life was woven about with the lives of the boys he loved. Their letters and their visits were now his daily fare, as he was growing old.

He said, "The boys come to us at thirteen years and stay for four years. Sometimes the place is spoken for as soon as the boy is born. A father will write, 'I want my son, born last month, when he is old enough, to go to Eton, and to live in the house that I lived in when there.' In four years much could be done for a boy, constant watchfulness, the feeling of obligation to others was growing. Had we heard of Eton College Settlement work in London? We must see roll-call and the Chapel."

The principal school buildings enclose two large courts, united by the archway of the church tower. In one of these we could see the boys gathering for roll-call. Some of them wore the tall hat and tail coat. Those under five feet four inches in height wore a short jacket with the tall hat. The regulations governing dress are not as rigid as formerly, and flannels and sweater coats are both worn in restricted type. Masters carrying registers in their hands appeared and were quickly surrounded by groups of boys. "Smith" cried one of the masters. A student from the group surrounding him snatched off his hat and answered, "Here, sir."

"Brown?" Brown, with his hat off, replied, "Here, sir."

"Robinson?" No answer. "Robinson?" No answer. More loudly, "Robinson?" Pause—and Robinson, with evident haste, responded, "Here, sir." "Stupid little boy," said the master, "for not answering at once I shall mark you as though you had not answered at all." When Mr. White's name was called we asked why Mr. and learned that it was because he was "Honorable."

The chapel is a handsome building, somewhat resembling King's College, Cambridge, and dates from about the same time, 1476. It has a good organ and contains Watt's painting Sir Galahad—the gift of the artist to the Eton boys. The picture is hung in a good light and is clearly in view on entering the chapel. The youth in silvery armor and the magnificent white charger are compelling figures. The exquisite beauty of this youngest of King Arthur's Knights recalls the words of the King when he made him one of the "Knights of the Round Table:"—

"God make thee good as thou art beautiful."

The longing in the eyes, painted to reveal the sight of visions that few may see, hold by a mysterious thrall and the mysticism of the legend of the Holy trails to the present.

"I saw the Holy Grail and heard it cry 'O Galahad, and O Galahad, follow me.'"

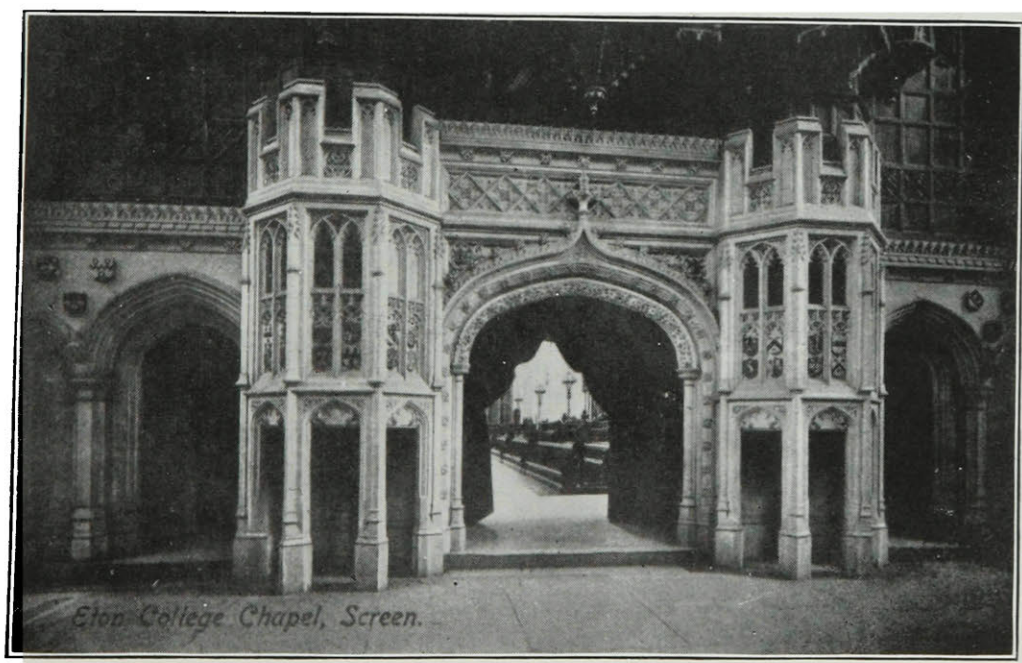
In the main room of the Upper School are marble busts of distinguished Etonians, including the Duke of Wellington, the Earl of Chatam and Sir Robert Peel. The whole of the oak panelling of the walls and of the teacher's desk are covered with autographs of former students, and among those pointed out to us were

those of Shelly and Fox. At one time each boy, before leaving, carved his own name with a jack-knife. Now, space is at a premium and the authorities have it done by a carpenter at the student's expense.

The races on the river came off after six o'clock. Interested visitors lined both banks of the river. They were between different houses, and not finals. From the starting point to the finish crowds of boys tore along the river banks screaming encouragement to their friends who were members of the racing crews. Indeed, the wife of one of the house-masters, whose boys were rowing, kept a fair pace, surrounded by members of her foster family, anxious to see as much as possible of the race and to be in at the finish. It was most interesting, and we regretted having to leave somewhat abruptly to make a train.

One of the oldest boys, who was showing us every possible civility, said, "The nicest thing about Eton is just that everyone who is anyone at all comes to Eton—so that if a boy is here for four years he knows everyone in England who is worth knowing."

What remains to us of our visit to Eton College is the memory of charming people in historic placing and of the distinct manliness of the boys that we met. They were at once our friends taking care of us—as free from self-consciousness as from assertion—to look at, they seemed strong and well-set-up. The promise of life in clear eyes, broad chests, distinct voices, and simple direct courtesy is part of the equipment that Eton College chooses for the boys she cares for between the ages of thirteen and seventeen years.



Eton College Chapel, Screen.

Life at a Military College.

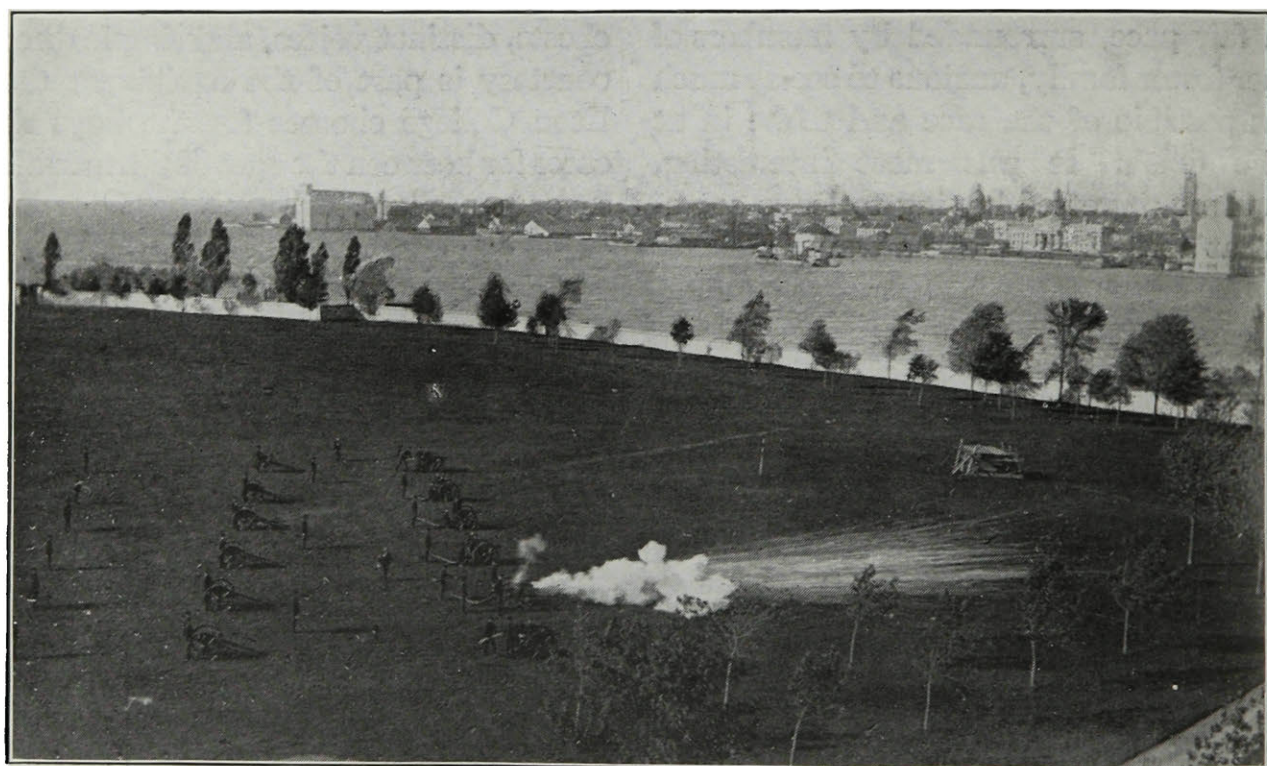
By ARTHUR E. PIDDINGTON, Ex-Cadet.



GREAT many years have passed by since I joined the Royal Military College, Kingston, Ont., but how could a "Gentleman Cadet" ever forget with what pride he assumed this title and how easy it was to play the part of a man, however, much of a youngster he had been a few short weeks before!

the table and told to bark like a dog till further orders, or perched on the back of a chair to crow, or do other like things; all this noise going steadily on, while the next poor sinner is trying to do his best!

The recruit now finds himself on a very different plane, and is at the beck and call of the lordly seniors, who have merely to shout "Bulldogs," or any



Firing Royal Salute at R. M. C.

On joining, the recruit is given a week's freedom, in which time he becomes quite obnoxious to all the men of other years, and is in prime condition for the initiation, which takes place the evening the seniors return. This is a blood-curdling proceeding, and is very thoroughly done, all the seniors taking an active interest in it. Part of it consists of the usual song or dance, but if the performer does not produce something worth while, he is put under

other suitable name, to have all the newly-joined on that particular floor at his door waiting to be told off to polish a set of accoutrements, clean a neglected rifle, or, like the farmer's boy we heard about the other night—slip across the square for the mail, or slip into town for "refreshments." But this is the lighter side of the life.

The work consists of gymnasium twice and sometimes even three times a day; heavy gun drill; rifle drill;

marching, shooting with gun, rifle and revolver; bridge building, signalling and map drawing, with lectures on all Military and Engineering subjects, and with a little French and English thrown in. In addition to this each cadet is taught to swim and to handle boats. It is a great advantage to be able to swim and sail a boat before going to the College—for you may become a “qualified sailor,” which brings special privileges with it.

Of course the cadets are received with open arms in Kingston, and particularly the dancing men, which presently nearly all become, for the cadets are very fond of dancing together. The girls all dance divinely—due, I suppose, to constant practice with so many imported styles from Queens and R. M. C.

The usual pride is taken in making the different teams, and the cadets generally give a good account of themselves.

The glorious prospect of what is to come helps the first year to pass all too quickly, and the stripling finds himself anywhere from 20 to 50 lbs. heavier, and fitter than ever before at the end of it.

The second year is a nondescript one, being a sort of filler, where you mark time and acquire tone, before taking upon yourself all the splendours of the third and final year.

By this time you have become the very idol of your family, and your best girl considers you the born soldier. The cadet has long since learned to carry himself well, and to always look fierce and very martial in public (when in uniform), but now he has to learn the horsey swagger, for he now takes up riding. The equitation squad look so bold and brave starting out, and so worn out and dishevelled on their way home! The horses know their drill so well that they turn or circle at the word of command, whether the proper

aides have been applied or not, and this happens so suddenly, that the rider finds himself proceeding in a straight line in the original direction. Some horses are particularly wise, and there was one I remember only too well—his name was “Apache,” and every time the Sergt.-Major cracked his whip, the whole world was spread out before you. This happened to me seven times out of eight turns round the school, and my one success was due to a firm hold of the saddle with both hands. It is surprising, how many croppers one may take without getting damaged! “Apostle” was another wiley one, whose little ways were worth knowing.

Realizing he would be in residence for three good years, the cadet took a great deal of pains to make his room both comfortable and attractive, and was responsible for the care of it, even having to make his own bed, as well as look after his rifle and kit, for early morning parades, in heavy marching-order, with the defaulters, was the result of untidiness. It was customary to have everything prepared to slip on at the last possible moment, and imagine your consternation on discovering your pack a dead weight, and nothing for it but to carry it as it was. To make matters worse, rows of smiling faces would appear at every other window to jeer at your tottering return. This extra weight would be caused by dumbbells or stones surreptitiously placed in the pack by a chum.

Discipline is well instilled and the course is very thorough, the engineering course, for instance, counting as two years at McGill. Four commissions in the Imperial Service are given each year in the Royal Artillery, Royal Engineers, Cavalry and Infantry, while occasionally extra commissions are given in the Army Service Corps or Indian Army.

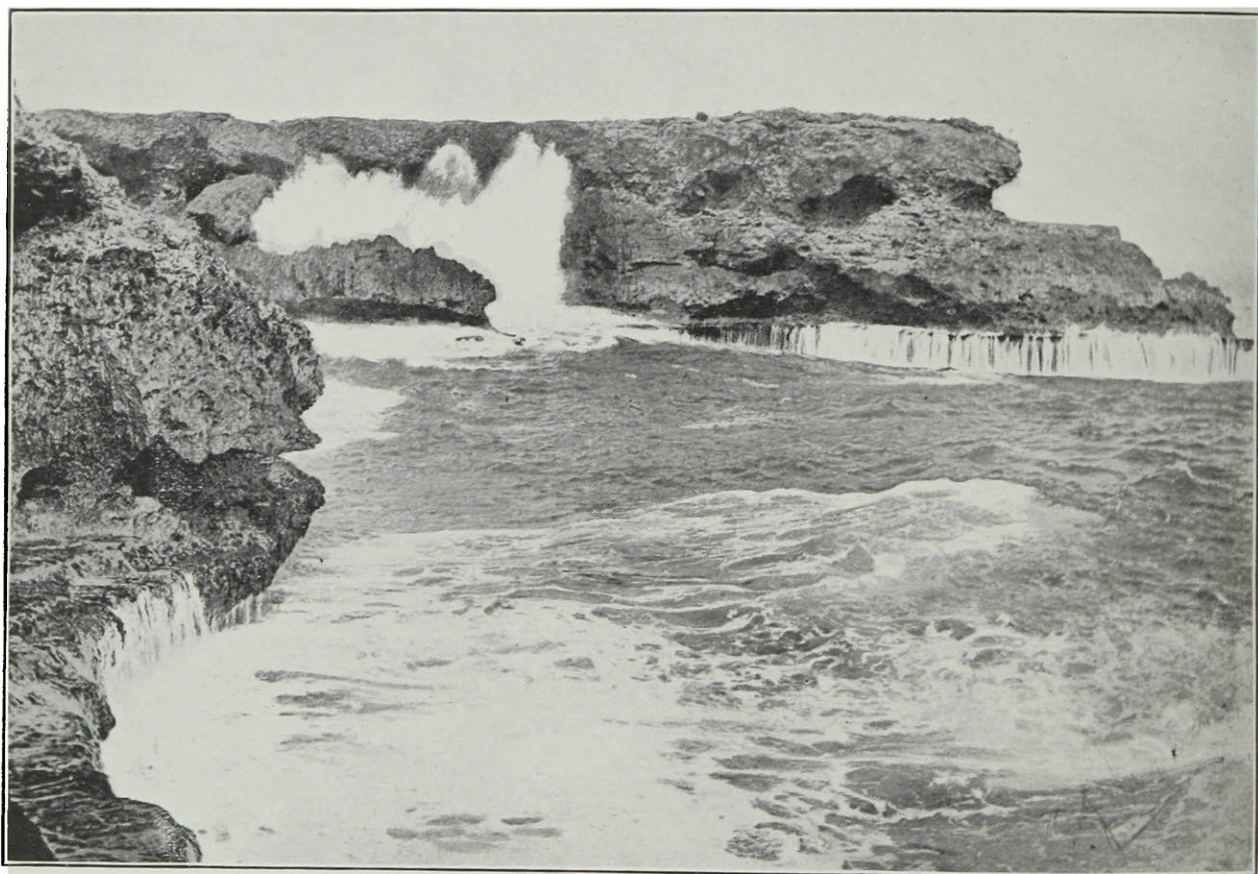
A Day by the Sea-Shore in Barbados.



HERE are so many ways of spending a summer's day in the Tropics, that it is hard to decide what to do.

Perhaps a day by the sea-side, where so many interesting and useful things may be learnt, is about the most instructive and enjoyable. It is hardly possible for the average stranger who has never spent a day under

tions, as the whole success of the day depends on their having everything in order and readiness. You see them catching their bait, and when they have caught enough and everything is ready, up goes the sail and away they go on the ever-freshening breeze. Their boats are of all colors and sizes, as a rule being under 30 ft. long, and always carrying as much sail as they can possibly crowd



Snark's Hole, Barbados, W.I.

such circumstances, to appreciate to the full all that there is to be seen and done.

As you go out on the beach in the early morning just about sunrise, which is perhaps by far the nicest part of the day, you see the natives all astir, preparing their tackle and boats to go out on the deep for their day's fishing. They are most methodical in their prepara-

on. On and on these boats go until they are lost from view, and when the fishing ground is reached, often 15 to 20 miles from shore, the men start about their work, the principal fish which they catch being dolphin, grouper, red fish and others, besides that most famed of all West-Indian fish, the Flying Fish. Contrary to the belief of many, the flying fish actually do fly,

and you have not to go many miles out from land before you can see shoals of them flying over the crests of the waves as easily as birds, the distance they fly varying upwards to 150 yards; in fact it is commonly said that they fly until their wings are dry. The red fish, which may weigh up to 20 lbs. or more, is caught from great depths, and sometimes when one is hauled to the top it floats off the hook, and being unable to dive down again, splashes about on the surface. When this happens, one of the men will jump from the boat, swim after the fish, capture it and return with it safely in his hand. This proceeding, however, is often fraught with great danger because of the much-dreaded shark, which frequents the southern waters so abundantly. The men in the boat look around anxiously to see that the swimmer is not attacked, and at the first sight of a "fin"—the dorsal fin of the shark showing every now and then above the surface of the water—they cry out a warning. The man in the water will then throw the fish behind him, in the hope that he will thus be able to make the boat. Sometimes, however, the shark will go for the fish and return to the man before he can be rescued. In such a case he may be considered lucky if he lose only a limb.

Now, many of the natives content themselves by fishing around the coast in smaller boats, from which they catch fish not only with hooks, but also in pots, which are generally made of split bamboo, baited with sea-weed and crabs of any description and lowered just beyond the reefs. When the men are hauling up these pots, they dive about with an indifference, only equalled by their ignorance, in the proximity of sharks and barracudas, the latter being regarded as the more ferocious.

There are many interesting things to be seen, however, close to shore without having to go out in a boat; for as soon as the tide recedes, it leaves the reefs bare, and it may be observed that the rocks are simply teeming with numerous forms of sea-life,—sea-spiders, sea-centipedes, anemonies, small fishes, sea-urchins (locally called "sea-eggs" and which are edible), crabs, conger-eels, etc., etc. Native lads patrol these reefs at low tide, with girded loins, in search of various edible forms, such as crabs, lobsters and "sea-cats," and are quite indifferent to the sharp-pointed stones that would quickly lame a white man, showing respect only for the dreaded "Lion-Fish."

The lobsters, which curiously have no claws and are quite red, are caught with the hands, but the "sea-cat" (an octopus with tentacles about a foot long), is speared with a barbed iron and brought up to the surface, where he is deftly turned inside out to quiet him, and then strung on to a loop. The conger-eel, which is the natural enemy of the sea-cat, is drawn from its lair by the scent of its blood, and in its characteristic voracious habit will as lief attack the lad, inflicting nasty jagged bites. On the other hand, the lion-fish, which is only about eight inches long, does not attack, but waits to be attacked. Because of its chameleon power it so closely resembles the rocks and sea-weed, that it can hardly be distinguished from them, and here it waits until the unwary treads on him. His means of defence is a row of erect spines on the dorsal fin, through which a poison is ejected. Anyone stepping on a lion-fish is painfully aware of the fact for a very long time afterwards, and some idea of the pain is obtained when one remembers that the best remedy is to burn the affected part with

a live coal; strong men will rave and cry like little children, and often, unable to stand the pain, will faint from sheer exhaustion.

The most delightful part of the day's undertaking, however, is the sea-bath. The water is warm and clear, showing a white sandy bottom that gradually slopes up to the beach, and here one may bathe with perfect safety, for smaller forms of sea-life are only found on the reefs, and sharks seldom venture into the clear and comparatively shallow water. The stranger naturally prefers

to take his dip in the more quiet parts, but the islanders always enjoy the rough and tumble of surf-bathing.

The sea-shore arouses an interest in everyone that never palls, for who can come in contact with Nature—the mighty Ocean—and not be awed and interested; and when you finally retire to rest at night, it is with the sweet and clear conviction that the day has been spent in the company of the Almighty.

H. C. BAILEY, '17.



Imported.